DOCUMENT RESUME

ED 257 975 CE 041 640

AUTHOR	Harry, Raymond L.
TITLE	Mobile Training Laboratories, Mobile Equipment and Programs Offered in Business or Industry. Status Report.
INSTITUTION	Ohio State Univ., Columbus. National Center for Research in Vocational Education.; Wiley (John) & Sons, New York, N.Y.
PUB DATE	26 Jul 85
NOTE	129p.; Parts of the appendix may not reproduce well.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	Abstracts; Case Studies; Cooperative Planning; *Delivery Systems; Educational Cooperation; Educational Equipment; Educational Needs; *Educational Practices; Educational Trends; Equipment Utilization; Innovation; Interviews; Literature Reviews; *Mobile Classrooms; Mobile Educational Services; National Surveys; Needs Assessment; *Nontraditional Education; Postsecondary Education; Program Descriptions; Program Effectiveness; School Business Relationship; Shared Facilities; Shared Services; Technical Education; *Vocational Education

ABSTRACT

A literature review and telephone survey examined the following alternate methods for delivering vocational education services: mobile training laboratories, mobile training programs, training programs offered by educational institutions in business and industry facilities, and equipment loaned or supplied as a gift by business and industry for initial training, retraining, or upgrading of the work force. Of the 91 mobile training units known to have been in operation in 29 states, 50 were found to be operating at the time of the study. Generally, those surveyed considered mobile training units an economically sound and efficient means of using scarce educational resources. The main reasons given for discontinuing use of such facilities included wearing out of the trailers, loss of funding, difficulties in finding and keeping instructors, and lack of availability of power and other utilities in the location and form in which they were needed. Mobile facilities were credited with enabling vocational instructors to serve students who would not otherwise have been reached, developing positive public relations, allowing instructors to serve both public and private schools, exposing students to a greater variety of vocational programs, and encouraging additional support of vocational education by business and the community. (Appendixes to this report include abstracts of over 50 ERIC documents and copies of 13 journal articles dealing with mobile training stations.) (MN)

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STATUS REPORT

MOBILE TRAINING LABORATORIES

MOBILE EQUIPMENT
AND
PROGRAMS OFFERED IN BUSINESS OR INDUSTRY

Raymond L. Harry

Vocational Education Program
Coordinator, Washington State
Board for Community College Education

U.S. DEPARTMENT OF EDUCATION
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The National Center for Research In Vocational Education
The Ohio State University

July 26, 1985

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REPORT ON RESEARCH IN ALTERNATIVE METHODS OF VOCATIONAL DELIVERY

PROGRAM:

In-residence program for the Professional Development of Postsecondary Occupational Educational Educators, sponsored by John Wiley and Sons, Inc. Publishers and the National Center for Research in Vocational Education, The Ohio State University

PARTICIPANT:

Raymond L. Harry, Vocational Program Coordinator,
Washington State Board for Community College Education,
319 E. 7th Ave. Olympia, Wash. 98504

RESEARCH GOAL:

Determine alternate methods for delivering Vocational Education Services in occupational areas that are experiencing high equipment costs and rapidly changing technology.

Telephone contact was made initially to the office of the State Director of Vocational Education in thirty-seven selected states. The Director's office referred the call to those individuals who were most knowledgeable in the areas of (a) mobil training laboratories or programs and (b) industry based training.

FINDINGS

Mobile Training Laboratories

Twenty-three of the states that were contacted by telephone were known to have utilized mobile training laboratories in some capacity between 1956 and the present. The purpose of this telephone follow-up was to determine: (a) if the units were still in use; (b) if portable units were no longer in use, and why; (c) what were the most positive results or lasting influences that resulted from their use; (d) what were or are the major problem areas in the use of and/or the reasons for discontinuing use; and (e) new or additional mobile training units and their positive and/or negative results.

The following sections report the responses to these questions.

ACCOMPLISHMENTS:

OVERVIEW

The literature was reviewed to detect historical data and case studies that would satisfy the research goal. The methods of program delivery included mobile training laboratories, mobile training programs, training programs offered by educational institutions in business and industry facilities, and equipment loaned or supplied by gift (in whole or part) by business or industry for initial training, retraining or upgrading of the work force. The literature refering to these instructional methods included all available journal articles and documentation listed in the ERIC files and all relevant publications on file at the National Center for Research in Vocational Education and the libraries of The Ohio State University.

Following the review and cataloging of the known data, further study was completed via telephone interviews with appropriate vocational education officers in selected states. The selection of states to survey was based on the states' known historical involvement with these innovative methods for vocational/technical program delivery.

Are the portable training units still in use? Of the 91 units known to have been in operation in 29 states, 50 were found to be operating at this time. Contact with some states was not possible because of change in personnel or nonresponse to telephone messages.

Those units known to have been in use, at one time or the other, appear in the source list or descriptions in Appendix A.

If portable training units were no longer in use, why? A summary of comments relating to this question includes the following reasons:

- Trailers worn out. Due to continuous movement from site to site over rough roads, the frames of the mobile training units suffered fatigue and the outside shell became warped.
- Funding ran out. The units were made available through special funding, such as grants or legislative appropiation, and continued funding was not made available for ongoing use.
- Instructors difficult to find or keep. This concern came from states where the distance from the base station or residence of the instructor to the site of instruction exceeds a practical commuting distance. This made it necessary for the instructor to live away from home for several nights a week. The result was usually a limited one-year commitment on the part of the instructor. The negative effects in this continuous turnover were the lack of ongoing improvement in the curriculum, as well as poor maintenance of the unit and its equipment.

- Power and other utilities were not available at the time, in the right form or location. These concerns have been the most severe where power requirements were different than 110 volt or 220 volt single-phase. At least one state, Nebraska, has solved this by mounting 28-foot-high poles, raised and lowered hydraulically, on a separate unit. This unit contains the transformers, service entrance, distribution service, and the wiring necessary to attach to the local high-voltage power sources to provide electric power to the mobile unit. At Great Oaks in Ohio, a small generator unit mounted on a trailer is towed behind the laboratory when commercial electrical power is not available. North Dakota has two large diesel generators mounted on trailers that may supply enough power to deliver the three-phase electricity needed for the welding laboratories, when commercial power sources are not available.

What were the most positive results or lasting influences in the use of mobil training units? A summary of comments in this category include the following:

- Serving students who would not have had the opportunity to be served without them. This comment came from states with a large rural population and small districts. Through the use of mobile training labs, students in some districts were served by vocational programs that could not financially support a permanent facility or obtain approval from the state for independent program operation. The reason for potential nonapproval by the state included the lack of enough students for continued support and the inability to obtain or maintain a certified instructor.

- Positive public relations with business and industry. A very positive relationship has developed between business and industry and the educational institutions, due to the location of portable training laboratories on the business or industry site and the training of their employees. This training was, in most cases, correlated with the skills used in the workplace. Legislators in some states have viewed the use of portable training units, equipment, and programs as an efficient use of limited public funds.

- Serves dual purpose as a classroom and a tool storage area. In the construction trades programs, these units are used as a portable classroom as well as a "construction shack" to store tools, plans, and some materials for the training projects. The projects, as identified by the states, included the building of residential facilities, the repair, remodeling, and construction of public buildings, as well as work on school district facilities. The real merit of this type of classroom is demonstrated on days when the weather is inclement and/or construction cannot proceed because of a lack of supplies or support services. All related subjects are taught in this classroom, making the program of instruction intensive, with correlated skill and related instruction all conducted at the same location.

- Ability to serve both public and private schools. Mobile training units are being used in locations that provide individuals with the service they both need and want. The locations in some states have been restricted to public school or business/industry sites. One state, New Jersey, has also located mobile training units at private schools on a regular basis.

- Exposure of students to a greater variety of vocational programs. If a district or educational entity is able to conduct and continue support of one to two ongoing vocational programs in fixed facilities, opportunities can be expanded to the geographic area through the use of portable training units. Additional programs that have fewer student requests or employment opportunities seem to be the best candidates for temporary locations in these entities. The number of programs that the individual student can choose from is limited only by the number of training programs available in the participant's geographic area.

- Increased business, industry, and community support. The use of state wide or regional advisory committees to advise the educators in the development, placement, and operation of mobile training units has resulted in a cooperative effort and positive continued support. These advisory committees have contributed equipment, supplies, and personnel. Composition of some committees has included the state's or area's leading authorities in the occupation. This has helped keep the programs current, efficient, and in tune with business and industry needs.

- Serving individuals in locations that would not otherwise have been served. People who live in rural locations who would otherwise have to commute some distance for educational services are provided the opportunity through portable units to attend classes in their own geographic area. It has been found that individuals are not as likely to take courses if they have to commute long distances.

- Nonduplication of equipment or instructors. The efficiency of equipping one laboratory as opposed to several in the same instructional discipline means financial savings in both facilities and equipment. It is much more efficient to equip one good laboratory than several laboratories that are partially complete. The money spent on one mobile unit compared with capital facility construction is, in most cases, much less, especially if the capital facilities are program-specific.

What are or were the major problem areas in the use of and/or the reasons for discontinued use of mobile training labs? A summary of comments in this area include the following:

- Units worn out. The major complaint in this area were that many of the trailers were built on mobile home chassis. These units when moved over rough roads, showed fatigue in the frames and wear and tear on the covering skin.

- Could not keep an instructor. This concern came from states where the instructor was expected to travel with the mobile unit in large geographic areas or over the total state, thereby keeping the instructor away from home for extended periods of time.

- Funding dried up. Units initiated from special funding sources were not able to be kept in operation because of a lack of ongoing resources dedicated for this purpose.

New Or Additional Mobile Training Units And Their Positive And/Or Negative Factors.

The telephone survey showed that many new units have been developed and placed into operation. These units have been designed to serve programatic needs in occupations that (a) are developing or use newer technologies, (b) serve as support for economic development. and (c) respond to on-site business or industry training requirements. Newer units, in most cases, have been constructed to correct problem areas identified by previous users of mobile training units. Many of these newer units are constructed with the capability of changing the instructional program area without major modification.

A brief overview of some of these new mobile training units is included in SECTION II.

Mobile Training Programs or Programs With Equipment That Is Mobile

Vocational/technical programs show trends in sharing newer, sophisticated high technology or expensive equipment among training sites. This trend is supported by an increasing number of states. A limited number of individual cases are illustrated in SECTION III.

The reasons for increased support include the following:

- Rapid changes in technology. Rapid changes in technology outdate equipment in shorter periods of time. Sharing of equipment allows for maximum use by larger numbers of people. This process helps justify early replacement due to wear and tear rather than obsolescence. This also helps education keep current with the technological advance in business and industry.

- Lower initial costs per school for equipment. The increasing costs for single training stations in new technology categories have made duplication of equipment at multiple sites impractical. The planned movement of specialized equipment for incorporation into regular instruction is indicated as good conservation of limited financial resourses.

- Exposure to greater number of students. By moving equipment from site to site, students at each location are given an opportunity to develop skills in specialized occupational areas. Most of the smaller schools or geographic regions would not be able to provide instruction in these specialties without a process of this type.

- Exposure by students to a larger variety of types and/or models of equipment. In some states, equipment manufactured by different firms, different models, or those using different operating principles are rotated. This rotation gives each student much broader experience and skill development than a single school with fixed equipment would provide.

CONCLUSIONS

Mobile training units, mobile training programs, and training conducted within business and industry sites appear to be an economically sound and efficient use of scarce educational resources. The trend in their use is growing in states where economic development activities have created, at an increasing rate, a need for training in new or improved technologies. These technologies have brought with them the need for training in the use of relevant new or improved equipment and processes. This equipment and processes are usually very expensive and become outdated in a relatively short period of time.

Vocational/technical education is being challenged by business and industry to teach the skills their employees and future hires need both today and in the future. The concerns expressed by advisory committees and others about the lack of currency in vocational/technical skills being taught in some programs need to be addressed. To address this issue, thorough studies are needed in each state to determine what are the current and projected worker supply and demand, by occupation. The results of these studies should contribute to a master plan that reflects a process for addressing any areas of deficiency in the supply of a trained work force. Both the planning process and the implementation must be accomplished in as short a time span as possible.

The planning and implementation should consider the use of mobile training units, mobile equipment, or use of the equipment and facilities of business and industry. This consideration should be made especially when new technologies first appear and training programs are being established.

The selection of the media to be used in presenting the curriculum should consider the use of electronics. Telecommunications, videodisc or tape, and the variations being developed may be ways to alleviate some of the instructor travel problems identified in the use of mobile training programs and units. This is not to suggest that instructors should be eliminated, but rather that some of the actual classroom or laboratory contacts could be decreased.

It is hoped that all vocational/technical programs developed in the new and emerging occupations have a competency based curriculum. The use of competency-based instructional curricula lends itself well to the limited number of work stations usually available in new technologies, due in most part to the high cost and limited supply of equipment. Competency-based curricula should have performance-based measurements as the method of testing and documenting the manipulative skills of the student.

SECTION II

CASE STUDIES
ON NEWLY IDENTIFIED
MOBILE TRAINING UNITS

IDENTIFIED BY
TELEPHONE SURVEY

MOBILE TRAINING LABORATORY

Arkansas Department of Education
Contact: Chuck Easely (501) 371-2165

The secondary education system in the state of Arkansas operates a total of eight units that serve eight different schools in the state. The state is divided into two sections, separated by the Arkansas River. Four units operate in the north and four in the south. These units are moved four times a year, so that each participating school has the opportunity to receive the four specialties during the year. Units contain such programs as machine shop, refrigeration/airconditioning, electronics/electromechanical, auto mechanics, printing, health occupations, and two with carpentry (one north and one south of the river).

The most satisfying and positive result of using these mobile units is the opportunity for the small school districts to participate in an approved trades and industry program. The opportunity would not be possible without the units because of financial constraints. It was noted that some consolidation of school districts in Arkansas may alter the usage of these units in the near future.

Detailed information about these units may be obtained from Chuck Easely, Trades and Industry Education, Arkansas Department of Education, Little Rock, Arkansas.

MOBILE TRAINING LABORATORY

Statewide Postsecondary and Industry Education in Arkansas
Contact: Chuck Easly (501) 371-2165

The postsecondary vocational-technical system in Arkansas has the use of a Computerized Numerical Control (CNC) Laboratory for three to four weeks at a time. This unit is a 12-foot by 60-foot trailer that contains a CNC lathe, personal computers, and classroom space that accommodates 12 to 16 students at a time.

The unit is financed by a combination of state and federal funds. The curriculum is lock-step at the present time and includes programming and operation of the CNC lathe, computer-assisted design, computer-assisted drafting, and soon to be added, CNC milling capabilities.

The unit may be located at any site that contains the electrical power and air supply needed for operation. During its operation, it has been located at vocational-technical schools, industry, and at one trade show. The unit is moved by a commercial mover, with costs of moving being the obligation of the receiving host industry or school. While located at any site, industry has the opportunity to use the unit in the evening. High school students who receive the recommendation of their instructors are allowed access when the unit is in their area.

Positive factors for use of the unit include the ability to serve many more students than would have been possible at a single location. The higher cost of purchasing equipment for several locations would have resulted in a decrease of services to other program areas. Another positive factor is reflected by the close cooperation of business, industry, and high schools in the operation of the unit.

One negative factor was indicated. This was in the area of keeping the instructor away from home four to five nights a week for 50 weeks a year. It is desirable to have the same instructor travel with the unit, to keep operation efficient and the unit well-maintained. The host school or industry is responsible for paying the per-diem of the instructor, in addition to the moving costs.

For further information, contact Chuck Easly, Trades and Industy Education, Arkansas Department of Education, Little Rock, Arkansas.

MOBILE TRAINING UNITS
San Diego County
Contact: Henry Pugh (619) 292-3600

San Diego County Office of Education operates eight mobile training units serving an area of 4,255 square miles and a school population of 32,000 students. The units serve high schools, high school continuation facilities, and adults for the purpose of job seeking or preparatory skills as well as advanced skills for the employed. Industry may contract for the use of the units during the off hours, provided that they travel to one of the school locations where the units are placed. The eight units are located one-half of the regular school year in a single location, than moved to another site. Some use is made of the units during the summer through special programs. Each unit has a maximum of 12 work stations, as controlled by county fire ordinance.

The units are 60 feet long by 12 feet wide and built by a commercial contractor in New Jersey. Programs that are housed in the mobile units include: Air Conditioning/Refrigeration/heating and Solar, Banking Careers, Automotive Tuneup, Electricity /Electronics, Graphic Arts (complete with camera, presses, darkroom, and computer typsetter), Machine Shop, Small Engine/Motorcycle, and Word Processing.

The units are moved from site to site by the Commercial Driver Training program operated by the school district. This method of moving has netted a considerable savings for the district over using a commercial mover.

Several negative factors were identified and include (a) high cost of operation due to the low number of students that are able, by regulation, to be served; (b) costs for insurance, fuel for the moving of the units; (c) per-diem and travel costs for the instructor who travels, in most cases, with the unit to its various locations.

Several positive factors were also identified. They include: (a) ability to serve students in outlying locations that would not have been served without the mobile units, and (b) Making it possible for students in the rural locations to be able to have a variety of vocational programs to choose from during one of the mobile unit's visit to their area. A single program located at a single school site would not give the students the selection of programs or careers to choose from.

Dr. Pugh recommends one major improvement if the program were to be developed for future implementation. In order to facilitate the use by more students in each class session, a classroom area adjacent to the mobile lab should be provided by the host institution. It is estimated that the number of student work stations could double to 24 through this improvement.

For further information, contact Henry Pugh at the San Diego County Office of Education.

MOBILE TRAINING LABORATORY

Statewide Project in Connecticut
Contact: David Mordauski (203) 566-8563

The Industrial Arts-Plastics on Wheels (PLOW) project is funded by the state of Connecticut to educate high school students in plastics. The mobile laboratory is a 26-foot motor home converted to a complete plastics lab. The mobile lab must be used in conjunction with an industrial arts facility so that workbench space can be provided to the students. The lab comes equipped with the machinery and supplies needed to provide all types of instruction in plastics work, including casting. The host to the industrial arts lab must have the necessary 220-volt power and water hook-ups to make the mobile unit operable.

The instructor stays with the mobile unit and provides the specialized plastics instruction. The instructor moves the lab from site to site and also serves as a teacher trainer in the plastics specialty to the host industrial arts teacher(s).

The unit serves four locations and some 300 students each year. The students served by this unit would not have had the opportunity to obtain skills in this specialty if the unit had not been on location. David Mordauski of the state voc-ed department noted that as a result of the mobile unit, two specialty laboratories in plastics have been established at high schools to serve students on a regular basis.

Close cooperation with the plastics industry through the continued use of an industrial advisory committee has been very beneficial. Several special adult classes have been conducted for employees of firms when the unit was located in their geographic area. This statewide committee gives the state and local educational representatives the continuing contact needed to keep the curriculum current.

The unit was acquired through surplus sources and converted for educational use for about $12,000, with an additional $30,000 expended for equipment. The State Department of Education provides $35,000, annually for the unit's operation. This includes the instructor's salary.

Mr. Mordauski did identify one major problem area that, if he were to do it again, would be changed. This is in the design of the basic unit, which has serious size constraints. His recommendation would be to develop this program for use in a 60-foot trailer that could operate as a self-supporting facility.

Further information can be obtained from Mr. David Mordauski, Connecticut Department of Vocational Education, Hartford, Connecticut.

MOBILE TRAINING LABORATORY

College of Southern Idaho
Contact: Jerry Beck (208) 733-9554

This college operates a 38-foot by 8-foot mobile training laboratory with 10 computer training stations. This unit operates in eight counties that cover a 200-mile circumference in this southeastern area of Idaho. The unit itself was built by a local horse trailer manufacturer with the internal finish work completed by the college staff. It is a low-to-the-ground design with access for the handicapped, self-contained propane heat, air conditioning, and electric power. The unit is moved from site to site by a one-ton truck that serves as the transportation for the instructor.

The instructor is responsible for moving and setting up the unit in each location. The instructor is provided per-diem expenses when the daily commuting distance or circumstances makes it impractical to return to home base. The instructor is paid for a regular teacher load, with additional stipends for excess teaching loads. The unit was moved to 26 locations in the first 26 weeks of operation and served 245 people. The courses that were conducted included: introduction to computing, agriculture management, data base usage, and word processing.

Costs of instruction for each site take into consideration the movement costs and the per-diem needed to cover the costs. The first 24 weeks of operation reflected the following costs:

Instructor	$8250.00
Generator Operation	$418.00
Propane	$82.00
Moving	$1168.00
Lodging for Instructor	$1150.00
Meals for Instructor	$768.00
Extra Instruction (over normal load)	$892.00
Miscellaneous	$850.00

Considering that this period of time was during a very cold time of the year, the heating and power costs were very low.

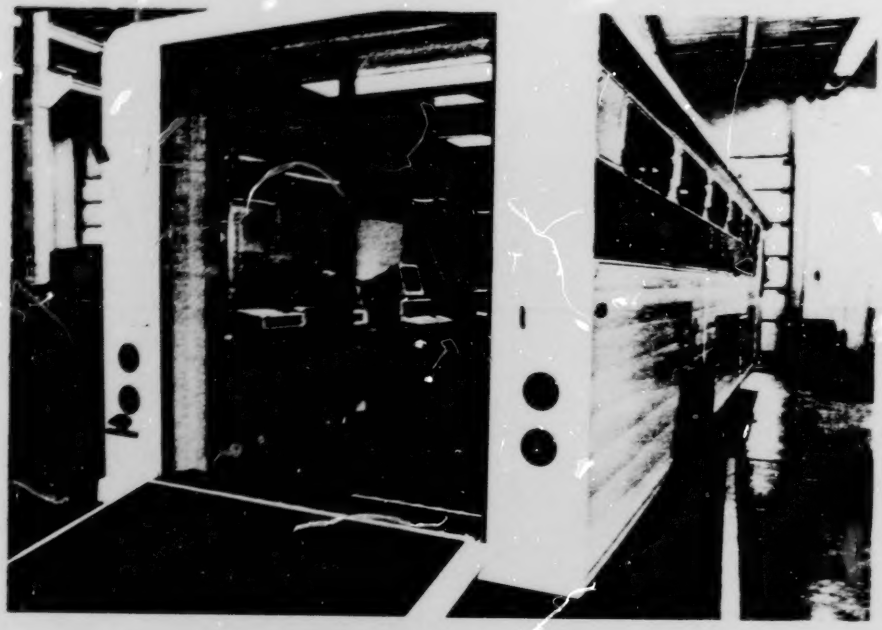
The unit has been located at a variety of sites, including supermarket parking lots, public-owned facility property, high schools, motels, and business/industry locations. Coursework has been provided to the general public, agriculture workers, and school districts. Business and industry has also been served on an individual employee basis, and customized training has been provided for blocks of industry.

The decision was made to build this unit to be pulled by a one-ton truck with a fifth wheel hitch for several reasons: (a) the licenses and permits required by a large truck tractor were much greater than for the one-ton truck; (b) the one-ton truck could double as the instructor's transportation, eliminating the need for a separate vehicle for instructor commuting or local travel; (c) the low-to-the-ground profile allowed access by the handicapped, made easy by a ramp extending the full length of the unit's back; and (d) the unit was designed as an educational laboratory and was not a retrofit of a mobile home or a truck trailer.

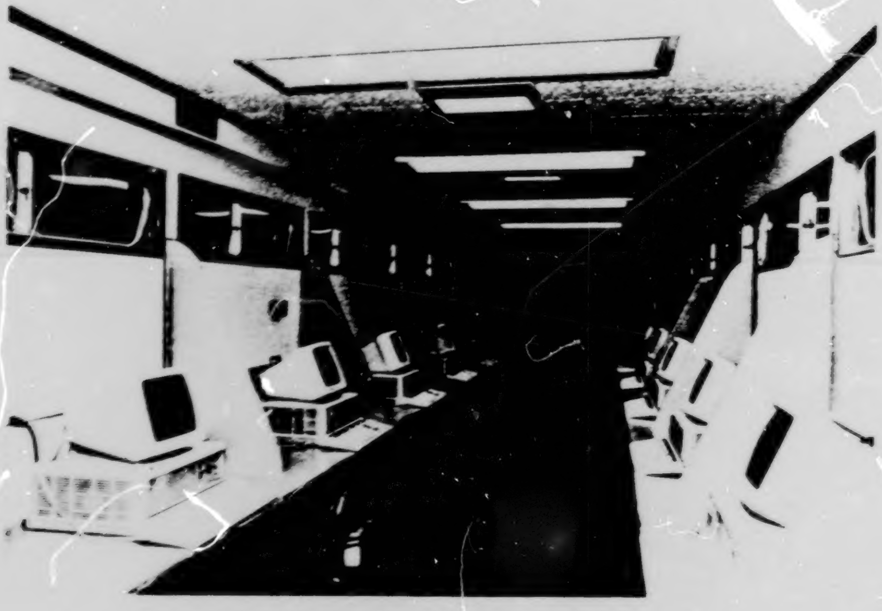
The unit was originally equipped with 10 Digital Rainbow model 100 computers, and is now being equipped with IBM and IBM-compatible microcomputers. This standard is what the business and industry community is using for its own operations. The change in the type of computers in the mobile unit is being made to serve these users, as well as to provide new trainees with the "local standard."

Jerry Beck at Southern Idaho College makes one strong statement: "A full-time person must be assigned to the unit with the responsibility of seeing that the unit is moved to the various sites and instruction provided in accordance with the planned schedule." Southern Idaho College administrators feel that the unit is helping meet the needs of the state by serving the rural area. Local legislators have visited the unit when it has been located in their area. It was also taken to the state capitol at Boise for a legislative demonstration.

Further information can be obtained from Jerry Beck, College of Southern Idaho, Twin Falls, Idaho.



College of Southern Idaho
Mobile Computer Van Exterior



College of Southern Idaho
Mobile Computer Van Interior

MOBILE TRAINING LABORATORY

Statewide Project in Indiana
Contact: Noel Brown (317) 232-1816

Secondary programs in Building and Construction Trades are operated in various locations throughout the state of Indiana. The Building Trades program includes skill training in the construction of concrete forms, pouring of foundations and walls, concrete finishing, framing, bricklaying, general carpentry work, plumbing, electrical, drywall installation and finishing, and roofing. The types of skills taught may vary with the construction project. This program is conducted on-site with the assistance of a mobile classroom and laboratory unit. The unit is a mobile home shell that serves as a construction "shack," classroom, and storage area for instructional materials and tools. The facility also serves as the office for the instructor. External power and water must be provided to the unit.

Training projects vary from the construction of homes for private occupancy to the building of additions or remodeling of public buildings or schools.

Further information can be obtained from Noel Brown, Indiana Department of Vocational Education, Indianapolis, Indiana.

MOBILE TRAINING LABORATORY

Southern Illinois

Contact: Grace Duff (618) 833-4202

The five southern counties of Illinois between the Ohio and Mississippi Rivers are served by a mobile computer laboratory that is housed in a 26-foot motor home. This geographic area consists of 2 school districts and 12 high schools. The training is provided to students in the K-adult range. Uses include (during the regular school year) the delivery of educational services to two major groups: (a) teachers and staff of host schools desirous of inservice education, and (b) adults and specific groups identified by the local community. During the summer, the mobile lab is used as a career guidance laboratory for JTPA students, using one of three different software packages. This service provides this target group with information it needs to assist participants in making the best choices among possible training programs, as well as with resume writing and job search.

The unit is located at any one site for one to two days at a time, as identified by the needs of the host school. The unit is in its third year of operation and is moved from site to site by the instructor, who dedicates only part of the time to this instructional activity. The curriculum used is competency based and is centered around 10 computer work stations. These stations use a variety of equipment manufactures, including Apple, Radio Shack, and Commodore. Electrical power is supplied by either the unit's self-contained generator or external plug in.

For further information, contact Grace Duff, Pamms, Illinois.

MOBILE TRAINING LABORATORIES

State-wide in North Dakota
Contact: John Larsen (701) 671-2181
or Charles Losh (701) 224-3183

The continuing education and trades divisions of the North Dakota Sate School of Science in cooperation with the North Dakota State Board for Vocational Education operate 6 vocational/technical programs in mobile training laboratories throughout the state. The programs include auto mechanics, diesel mechanics, machinist, as well as welding (construction, production and repair). One additional unit, that houses a high technology laboratory, is moved around the state, primarily at secondary schools. Its purpose is to showcase the high-tech world to those who would not otherwise get the oportunity.

The units in the trade areas are available for use in locations where welding training is not available, or in locations where existing training facilities cannot meet the demands for training. One unit, the welding lab, includes beveling equipment, automatic cutting torches, approved AWS guided bend testing equipment, a power shear, and essential support equipment needed to provide for proper instruction. This unit is air conditioned, electrically heated, and vented. Minimum time this unit is used at one site is four weeks.

The high tech mobile laboratory is a self propelled, self contained unit, housed in a 16-foot retrofitted van body. Retrofitting includes insulation, wiring, air conditioning, paneling, flooring, baseboard heating, ceiling, lights, and mounts for equipment. The van is mounted on a late model truck chassis and is not a part of a tractor trailer rig. John Larsen states that, "this would be quite feasible but more expensive unless the tractor was already available or moving arrangements were already in place."

There are five student workstations in the van. They are: (a) Rhino XR-2 robotics station, (b) CNC training station (lathe, tooling accessary holder, 12"video monitor, electronic motor controller cartridge and 64K microcomputer), (c) computer assisted drafting, (d) laser demonstration system, and (e) photovoltaic kit with 4 silicon cells and metering system. Charles Losh, North Dakota Board for Vocational Education, recommends that "consideration should be given to substituting a fiber optics trainer for the photovoltaic unit to reflect the recent interest in the use of fiber optics". This unit is parked for two to four weeks at each site. The goal is to visit about 20 schools each year.

Further information can be obtained from John Larsen, North Dakota State School of Science, Wahpeton, North Dakota or Charles Losh, North Dakota department of Vocational Education, Bismark, North Dakota.

MOBILE TRAINING LABORATORIES

Regional units in Middlesex County, New Jersey
Contact: Henry Zanzalari (201) 257-3300

Four units are being operated and used by the Middlesex County Department of Education. The units were allocated to Middlesex by the state of New Jersey when the courts determined that the State Department of Education could not conduct education programs in the local school districts. Originally, eight units were operated by the state. Four each were awarded to Middlesex and Camden City Vocational School.

The Middlesex units have been in operation for the past eight years, serving up to 1200 students in 25 county school districts. The units are placed in both public and private schools, at no cost to the host school. Of the four units, two are now in permanent locations at a youth corrections facility. The other two are moved once a month to various locations within the county. Between the two remaining mobile and the two fixed units, about 700 students are being served.

Types of programs that have been offered during the past years include small engine repair, plastics, vocational skill assessment, and office occupations. All of the units serve between 15 and 20 students per class session. Instructors serve with the same unit through all of the locations and maintain the curriculum used in the program they teach. The units were moved, until recently, by a county-owned diesel truck tractor. This has since been retired and relocation is now contracted to private carriers.

The most significant positive benefits demonstrated over the years by these units are the ability to serve students in small districts that are not able to provide vocational education services in their own facilities, and the ability to serve nonpublic schools with equal services in vocational education that would not otherwise be available. A side benefit has been the positive public relations, as reflected in general public reactions to the schools. The public sees these mobile laboratories as a way of delivering vocational education to their community without expenditure of funds for permanent facilities and services that, in general, would not have been available by any other process.

The factors that have reflected some concerns include: the expense in moving and the insurance that is necessary; physical damage when parked in urban areas where security has not been provided; and the demand that has exceeded availability for the units themselves.

For further information, contact Henry Zanzalari, Superintendant, Middlesex County Vocational School, New Jersey.

BUSINESS/INDUSTRY/EDUCATION TRAINING
Statewide in New Jersey
Contacts: See each entry below

McDonalds

On two different occasions, Distributive Education instructors have participated as employee trainees by being exposed to the competency-based instruction program in fast food preparation and sales at McDonalds local restaurants. Many of these instructors were trained by their former students. The experience fulfilled two purposes: (a) it familiarized the faculty with McDonalds' competency-based training program, work ethics and management practices; and (b) it provided career awareness for the instructors on the career opportunities available in the fast food industry, including management careers that show how this type of employment may provide a career and not just a quick pass-through job.

For further information, contact Mel Schwartz, New Jersey State Distributive Education, (609) 292-6575.

Department Store Inservice for Instructors

A special program was sponsored by a major department store to provide inservice professional improvement opportunities to Distributive Education instructors. The program gave the instructors skill in the use of inventory control cash registers. This skill was taken back to the classroom, where students were trained for jobs in this new technology.

For further information, contact Richard Vangulic, New Jersey Trades and Industrial Education Department, (609) 292-6565.

Drafting

With eight computer-assisted drafting stations, students in the high school program at Hunterdon Central High School were trained for jobs in local businesses and industries through a custom-designed program with the EXXON corporation. The program is extended to adults four evenings per week and each Saturday. Both the high school and adult programs are tied to the needs of EXXON Corporation and various other small businesses in the Flennington, New Jersey, area.

For further information, contact Michael Graycar, (201) 782-5787.

Computer Repair

Mercer County Community College is conducting a computer repair program in cooperation with U.S. Steel for displaced workers. The program uses funding from both the JTPA and federal Vocational Education appropiations. As the workers are displaced from jobs at U.S. Steel, they are trained to enter a new occupation as computer repair technicians.

For further information, contact Robert Terrano, (609) 586-4800.

Maintenance Mechanic

Ocean County Vocational School has been working with PACO in a program that trains mechanics to perform maintenance and repair on machinery used in assembly-line manufacturing. The program started as a customized training program. It uses the vocational school for the classroom portion of the training and the manufacturer's site as the laboratory. The program has been expanded recently to many other industries that wanted in on the action.

For further information, contact Tom Rivers, (201) 240-6414.

Automotive Repair Technician

A joint effort between Bergen County Vocational School and the Bergen County Community College has resulted in a "2+2" project to train Automotive Repair Technicians. This competency-based program provides for the training of new auto repair technicians, as well as the retraining of those who are presently working in the industry. Three major course areas are taught. They are: Computer Command Controls, Fuel Injection, and Emissions Control. Instruction is provided in the diagnosis and repair of all major domestic and foreign automobiles. Adults, high school students, and college students may participate in the same program, with each competency recorded when completed. This record of completions may be used by the students as credit toward a certificate or associate degree at Bergen County Community College. Both training institutions work closely in this vocational program to provide articulation.

For further information, contact Susan Mullin, (201)343-6000.

Automotive Emissions Certification

New Jersey has a required certification of automotive emissions control inspection and repair technicians. In a program developed by the state in cooperation with the U.S. Environmental Protection Agency, training is provided for inspection and repair personnel. This training is provided statewide in all county vocational schools. The completion of the training is mandatory for at least one employee before a facility can be designated as an auto emissions inspection and repair station.

For further information, contact Richard Vangulic, New Jersey Trades and Industry Education Department, at (609) 292-6565.

MOBILE TRAINING LABORATORY

State of New Mexico
Contact: Wilma Ludwig, State Director for Vocational Education
Santa Fe, New Mexico, (505) 827-6511

During the past several years, New Mexico has operated mobile training units in such program areas as electricity/electronics, drafting, microcomputers, hospitality (cashier/checker, hotel/motel, etc.), and office occupations (office simulations). The state has now discontinued the use of these mobile training units for various reasons. These include: (a) extreme difficulty in finding an instructor who could travel throughout the state and be away from home for five days a week and longer, if the weekend commute was extensive or if the winter weather made traveling hazardous; (b) mechanical failure of the units after several years of moving the units that were in trailers.

Some positive elements made the use of mobile training laboratories both productive and very worthwhile. Students in smaller and remote geographic areas were afforded the opportunity to participate in vocational education programs that would not have been available without them. Many of the districts served do not have enough students to obtain approval of a permanent vocational program from the state or the facilities to house the programs. Use of the units allowed students to be exposed to three or four occupational areas, if they so chose. Also, the equipment used in the mobile units could not have been available to each of the districts on an individual basis because of costs.

Some of the mobile units are now located permanently at sites that serve consolidated districts or consortiums. Other units have been dissolved, with the equipment and supplies placed in permanent facilities.

Further information can be obtained from Wilma Ludwig, State Director for Vocational Education, Santa Fe, New Mexico.

MOBILE TRAINING LABORATORY
South Western Ohio
Contact: Rosemary Kolde (513) 771-8840

In the southwestern corner of Ohio, The Great Oaks Joint Vocational School District operates two mobile computer laboratories as described in the brochure on the following page. In addition to this brochure a few recent elements of information were supplied by Dr. Kolde. This information follows:

The time that each unit stays at a site varies from two to three moves per day to four weeks. Either one or both of the units can be located at a site during the same time, depending on the demand for size of the group to be served. The units are moved in most cases by the instructor or, on occasion, by a representative from the district's central garage. The cost of each unit at the time of purchase was approximataly $55,000, plus $60,000 for instructional equipment and software.

These units serve elementary students through adults with a wide range in skills. Computer literacy is provided through software usage. The units are located at a variety of sites, including business, industry, or schools.

The most positive factor in the usage of these units thus far has been the excellent public relations that have resulted in the community. In specific, the positive input and visibility with business and industry have been credits to vocational education and the Great Oaks District.

The greatest problem has been the difficulty in booking the units to match the number of requests for service. After nearly one full year of operation there is an eight-month delay from the time of request for a new booking to the time of delivery of the education.

Three additional units are being planned for the near future in the following areas: (a) Computer-Assisted Design, Computer-Assisted Drafting, (CAD/CAM) (b) Laser Technology, and (c) Robotics. These new units will be developed as the funding becomes available.

For further information, contact Rosemary Kolde, Associate Superintendent, Great Oaks Joint Vocational School District.

The Great Oaks Joint Vocational School District

The Great Oaks Joint Vocational School District is the vocational education department of 35 school districts serving a population of 600,000 throughout 2,200 square miles of southwest Ohio. The District is governed by a 33 member Board of Education and is supported by a 1.70 mill operating levy assessed over a 4.7 billion dollar tax duplicate and by funds from the State of Ohio Joint Vocational School Foundation Program. Great Oaks fosters cooperative relationships with business and industry, professional organizations, participating school districts, and other interested and concerned groups and organizations to consider, plan and implement educational programs designed to meet common needs and interests.

The "Computer Connection" had its debut September 20, 1984 at the Ohio Vocational Association's 63rd Annual Convention in Dayton, Ohio. Hundreds of educators and others toured the mobile computer laboratory at the meeting and were impressed with the potential of the unit.

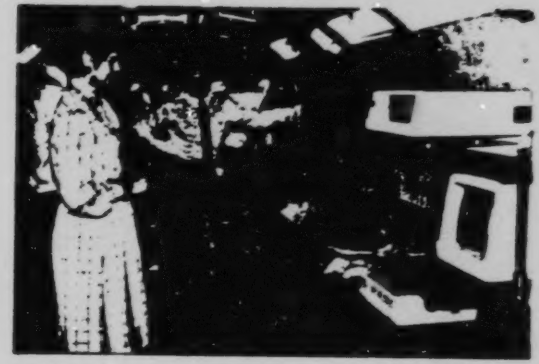
"The Computer Connection"

A Motorized Computer Instructional Laboratory

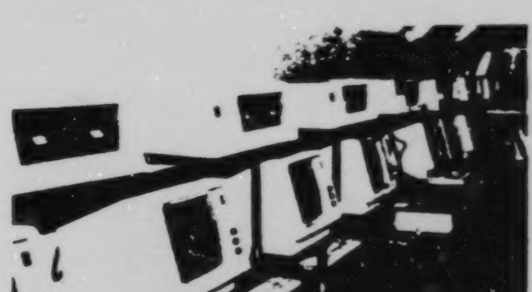
The "Computer Connection" came into being as Great Oaks Superintendent Dr. Harold L. Carr reacted to comments of participating district superintendents. "We can't all afford to bus students to Great Oaks Campuses to use the computer literacy laboratories set up there." "We'll bring the computer to you," stated Dr. Carr.

The statement is now fact, as two "Computer Connections" are heavily scheduled through the first of 1985 and beyond. The Batavia Ford Plant and Sharonville Ford Plant are on the schedule for two weeks each in October and November. Miami Trace High School and Indian Hill High School are scheduled. A unit will travel to Columbus for the Ohio School Boards' Association meeting in November and to New Orleans for the America Vocational Assocation's meeting in December.

The motor classroom can be driven to any participating school requesting it. Interest has already been indicated by elementary schools who want young students to develop computer literacy. The classroom can be moved directly to business and industrial sites for use there in education and training. The education would be offered to management personnel who want to explore computer concepts. The training would be offered to secretaries and others who want to learn word processing and other skills to enhance their work capabilities. The motor classroom can be used at any of the Great Oaks campuses to expand adult education offerings. It can also be used in shopping centers and parks where the general public can experience computer literacy.



Each IBM-PC has a color monitor, 256K of memory, and two disk drives. The software offers computer literacy, Lotus 1-2-3 spread sheets, and industry state of the art Multi-Mate word processing. It's a high-technology update of the bookmobile service of the past to upgrade southwest Ohio's computer skills.



The "Computer Connection" consists of 18 IBM-PC's (Personal Computers) housed in a 1985 Airstream 345 Series motorhome. The motorhome can pull its own Onan electric generating set mounted on a Collins trailer.

MOBILE TRAINING UNITS
StateWide in South Carolina
Contact: Robert David (803) 758-6968

The State Board for Technical and Comprehensive Education in the state of South Carolina operates three mobile training units, all equipped with Computerized Numerical Control (CNC) machine tools. These units are rotated among South Carolina's 16 community colleges, as well as to industry. The units were designed to be a part of the State's "Design for the 80's" plan and were custom-designed and built specifically for the heavy equipment found in a machine shop. The units are 12 feet wide and 60 feet long and are moved from site to site by a commercial contractor. The units stay at each community college for one quarter, or longer by special arrangement. The units have four work stations that supplement the regular machine tools found at each of the community colleges.

Two of the the units are located only on community college campuses; the third, between its regular college visits, is sometimes located at an industrial site for the conduct of "customized training." This assists industry in keeping its current work force employed.

The units' goal, as originally envisioned (and in fact is being accomplished), was to assist the local community colleges to keep their instructional programs current with the needs of business and industry. As a result of decreased funding from the state's General Assembly, the State Board determined that the mobile training units were the best way for the state to accomplish its goal. At that time, there was not enough funding available for each college to purchase the equipment for its laboratories. As time goes on, however, the colleges are purchasing the next generation of equipment for their exclusive use. As a result, it is expected that in the near future, these units will have their mission changed to a different occupational goal. Several programs have been considered, such as Robotics and Automated Manufacturing.

Several positive elements have resulted from the use of these units. They include: (a) decreasing the impact of the loss in machine tool jobs, caused by the movement of industry to automated machining, by supplying them with trained personal in a timely manner; (b) getting the program up and operating statewide in a short period of time; (c) providing good public relations to the education system from industry as well as the law makers (one of the units was placed on display at the State Capitol during the session of the General Assembly).

Several factors of concern (and areas for improvement) in the future development of mobile laboratories were identified. They are: (a) the units, as designed, are heavy for the purpose of carrying the weight needed for the machine tools, but as a result they are difficult to move; (b) the brake units were originally designed to be electric but have since been changed to air because the electric controls were not consistent; (c) keeping the tooling on the units repaired or replaced is difficult. Under the original agreement, the host schools were to see that repairs or retooling were completed prior to movement to the next site. The state office now repairs or replaces tooling before movement. It was also felt that a maintenance agreement for the machine tools was a necessity.

For further information, contact Robert David, Office of the State Board for Technical and Comprehensive Education, Columbia, South Carolina.

SECTION III

CASE STUDIES
ON NEWLY IDENTIFIED EQUIPMENT SHARING
AND TRAINING PROGRAMS
CONDUCTED AT VARIOUS SITES

IDENTIFIED BY
TELEPHONE SURVEY

MOBILE TRAINING PROGRAM
Statewide in Pennsylvania
Contact: John Brandt (717) 783-6960

A one-year special training project in diesel engine technology was developed by the state of Pennsylvania for use in trades and industrial, agriculture, and industrial arts programs. This project, a trailer with diesel engines of various types, was moved to all corners of the state. This gave each of the areas an opportunity to observe, receive instruction, and become familiar with the newest developments in diesel engine power. The variety of programmatic applications made the unit a very efficient approach to state-wide education. The unit was used in secondary and postsecondary institutions as well as with adults.

The project operated one year as a pilot program and was found to be very successful. The main reason for not continuing was the lack of available funding. This state has experienced a significant decline in students over the past several years. The equipment is now being used at Pennsylvania State University as part of the College's instructional program.

For further information contact John Brandt.

USING INDUSTRY AS A TRAINING SITE

Michigan (Delta Schoolcraft)
Contact: Ivan Ryan, (906) 786-9315

This district is conducting two "quick start, customized" vocational programs for two local industries. The training programs are in welding and machine shop. The two firms employ between 40 and 50 workers each. The programs are offered in the employers facilities and provide for upgrading of skills for those individuals with previous work experience as well as some initial skill training. Both groups are new hires. The age range for individuals being served is 18 and older. The program is funded by federal Vocational Education Funds. The curriculum was developed jointly by industry and the educational institution and is modified continuously as the need arises.

Positive public relations have resulted in employers' feeling positive towards education as well as participants gaining a strong sense of graditude toward the educational institution. These programs have the benefit of being taught on the equipment used on the job site, in the actual job setting, with the required work habits needed for maintaining continuous employment. The educational institution would have considerable difficulty in purchasing the equipment necessary for duplication of the work-place. For further information, contact Mr. Ivan Ryan, Delta Schoolcraft Intermediate School District, Michigan.

EQUIPMENT LOAN PROGRAM

Statewide Project in North Carolina
Contact: Charles Keels (919) 733-3061

North Carolina has two log loaders, one log skidder, and a winch (donkey) that are loaned to vocational agriculture programs throughout the state, for use in training students in forest harvesting. These pieces of equipment are loaned to eight or nine schools per year for a period of three to five weeks to train students in the equipment's operation. This specific training is correlated with forest harvesting instruction provided by the local school.

The skidder unit is moved from site to site by International Paper Company as a community service. The loaders are mounted on motorized units and are moved by the incoming host school. The donkey is moved with the loaders. A group of business and industry representatives donate funds that are used for operating expenses of a statewide advisory committee as well as insurance for the equipment.

The log skidder is owned by the John Deere Implement Company and is loaned to the state, with required maintenance supplied through a local John Deere dealership. Routine maintenance (i.e., fuel, oil, lubricants) is supplied by the host schools. This program began in 1967-68 and has served between 400 and 600 students each year. During the first years of operation, two skidders made it possible to have two sets of equipment that provided for one set on each side of the state. Recent economic conditions have cut this to the one remaining unit consisting of the total equipment inventory.

For further information, contact Charles Keels, North Carolina Department of Vocational Education.

MOBILE TRAINING EQUIPMENT

State-wide in North Dakota
Contact: John Larsen (701) 671-2181

The continuing education division of the North Dakota State School of Science, in cooperation with the North Dakota State Board for Vocational Education, conducts seven vocational/technical programs using mobile equipment throughout the state. The equipment is moved from site to site in trucks and trailers. The programs being conducted are; building operation and management, carpentry, cash register operator, clerical and secretarial, custodian-housekeeper, lumberyard employee, weatherization technician, and computer operator.

Each program is designed to accommodate six participants for maximum individual attention by the instructor. Whether the training need is basic, beginning job entry or advanced upgrading, each program's curriculum is individually fitted to the specific needs of the participants. The instruction is available at school sites as well as business or industry.

Instructors are experienced people from the college's faculty or a person from the community who has a competency in the field and the desire to train others. In addition to modern technical equipment, each instructor is aided by an extensive library of audio visual soft ware (film strips, slide sets, movies and video tapes).

"The future of the mobile training concept in North Dakota looks good", says Larsen, program coordinator. "With the North Dakota State School of Science being a state-supported comprehensive college, this is another way of meeting its responsibility to the entire state."

For further information, contact John Larsen, North Dakota State School of Science, Wahpeton, North Dakota.

MOBILE TRAINING EQUIPMENT
Statewide Projects in Oklahoma
Contact: Ivan Armstrong (405) 377-2337

Oklahoma has several occupations for which equipment has been purchased for rotation among those schools that do not have the opportunity to provide instruction in their use, or that do not have sufficient numbers of people to make their own purchase economically possible. Some examples follow.

Cosmetology

Five facial units that provide practice and skill building in the performance of facials are rotated among those schools in Oklahoma with cosmetology programs. The use of this equipment gives the students the skills needed to meet recent modifications in the state's cosmetology licensing requirements.

Automotive Mechanics

Four computer-aided diagnostic units for automotive mechanics repair instruction are rotated anong schools with auto mechanics programs. This equipment is now planned for permanent location in vocational schools. The need for rotation has been eliminated by the purchase of like (or other) current equipment in most of the training locations.

Computer-Aided Design and Drafting

Five units, one IBM and four TERAK computer-aided design and drafting systems, are rotated to twenty school locations with a nine-week stay at each of the schools. The IBM unit is used in locations where the experience level of the students is not as advanced as those receiving the TERAK units. The TERAK units may follow the use of the IBM unit to further increase the students' performance level. The units are moved by district state supervisors in their regular travels and evaluations throughout the state.Teacher training is provided in each of the areas through inservice activities before the equipment is placed in rotation cycle.

For further information on these examples, contact Ivan Armstrong, in the Oklahoma Department of Trades and Industrial Education, Stillwater, Oklahoma.

MOBILE TRAINING EQUIPMENT
Southwestern Washington State
Contact: Charles Smith (206) 754-7711

A consortium of four community colleges in southwestern Washington state operate a mobile automatic transmission training unit (MATT). The unit provides the equipment, tools and supplies in one package to the participating colleges. The unit contains an automatic transmission test unit, 16 automatic transmissions, spare parts, specialized tools, and instructional materials (Learning packages with overheads, tapes, slides, etc) for providing training in the repair and testing of automotive automatic transmissions. The MATT program is a complete package for basic and introductory experiences. The program the unit provides is not intended to take away or substitute for advanced live work.

The unit is a compact trailer that is towed behind a pickup truck. It is programmed for parking in, or adjacent to, an existing automotive instructional or commercial repair facility. The unit and curriculum is designed for integration into the regular automotive mechanics training program. The units' automatic transmission tester must be unloaded and placed in a space where access can be made from all sides, usually in a shop facility. The transmissions, special tools and replacement parts can remain in the unit until they are needed. The hands-on work experience and instruction on the transmissions must be accomplished at the appropiate work bench area.

The unit has been located at any one of the 4 participating community colleges for a minimum of 2 weeks and as much as 12 weeks at a time. In more recent years it has been rotated between 2 colleges to best accommodate individual college schedules. Original instructor training, in the use of the unit and curriculum, was provided to the participating instructors before the unit was placed in service.

Problems with the unit have been minor, but have created some concerns. The trailer itself was difficult to control when being pulled. The unit whipped when going down hill. The problem was easily corrected by the commercial trailer builder (the rear axle was out of parallel with the front). The other problems were related to natural wear and tear due to use (filters plugging in tester, casters on unit broken, special tools missing or broken).

For further information contact Charles Smith, Automotive Instructor, South Puget Sound Community College, Olympia, Washington.

APPENDIX A

MOBILE TRAINING UNITS
KNOWN TO HAVE BEEN IN USE
BETWEEN 1956 AND THE PRESENT TIME

DOCUMENTED BY

ERIC ABSTRACTS

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JOURNAL ARTICLES

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EJ161737 CE506489
Mobile Units for Vocational Training in Rural Brazil
Shutz, Paulo; Chesterfield, Ray
Agricultural Education, 50, 1, 9,23 Jul 77

Describes an experimental educational alternative in Brazil which uses mobile units in an attempt to bring vocational skills and continuing education to rural families. (TA)

Descriptors: *Educational Alternatives/ *Mobile Educational Services/ *Rural Education/ *Mobile Classrooms/ *School Community Relationship/ Vocational Education/ Program Descriptions/ Curriculum Development/ Vocational Agriculture

Identifiers: *Brazil

EJ158261 CE506282
Jobs for Special Needs Students
Anderson, C. R.
School Shop, 36, 8, 70-71 Apr 77

A vocational training program for disadvantaged and handicapped young people provides courses presented in seven mobile trailers and five locations. Prevocational courses for special needs students are given in maintenance and repair, food services, electrical assembly, commerical sewing, and other occupational areas. Advanced training is available at the Kansas City Technical Center. (MF)

Descriptors: *Handicapped Students/ *Disadvantaged Youth/ *Mobile Educational Services/ *Special Education/ *Prevocational Education/ Flexible Scheduling/ Mobile Laboratories/ Vocational Education/ Secondary Education/ Program Descriptions

Identifiers: Missouri (Kansas City)/ Missouri

EJ132538 EA506902
Classrooms on Wheels
Modern Schools, 8-9 Feb 76

Many school districts, unable to provide special educational activities for their students because of lack of funds, sparse population, or rural isolation, are finding the best solution may be classrooms on wheels. Examples in South Dakota and South Carolina are cited. (Author/MLF)

Descriptors: *Mobile Classrooms/ *Relocatable Facilities/ *Vocational Education/ *Secondary Education/ *Graphic Arts

EJ123742 CE503695
Project MODEL: Mobile Labs as a Propagation Device
Warzucha, Everett R.; Naughton, James A.
American Vocational Journal, 50, 6, 44-7 Sep 75

The mobile laboratories operated by Project MODEL are designed for disadvantaged and handicapped students. The vans offer a full array of diagnostic and career exploratory programs plus actual training that results in placement. (Author/BP)

Descriptors: *Disadvantaged Youth/ *Handicapped Students/ *Job Training/ *Mobile Laboratories/ *Career Exploration/ Vocational Education/ Mobile Educational Services/ Career Education/ Job Placement/ Educational Programs

Identifiers: Mobile Occupational Development Education Labs/ Project MODEL/ Massachusetts

EJ089467 EA504484

Adult School in Suburban Los Angeles Fills Community Education Role

Altshule, Barry

Community Education Journal, 4, 1, 27-29 Jan-Feb 74

Describes a community-based adult school designed to allow residents of the community an opportunity to develop their own interests. (DN) .

Descriptors: *Adult Programs/ *Adult Education/ *Community Education/ *School Community Programs/ Community Schools/ Volunteers/ Vocational Education/ Mobile Classrooms

Identifiers: Los Angeles/ California

EJ076243 VT504737

Mobile Units--Boon or Bust in Industrial Education?

Smith, Howard

Industrial Education, 62, 4, 22-23 Apr 73

Descriptors: Career Education/ Educational Facilities/ Industrial Arts/ *Industrial Education/ *Mobile Classrooms/ *National Surveys/ *Program Descriptions/ State Boards Of Education

EJ069760 EA503313

New Jersey Classrooms on Wheels

American School and University, 45, 4, 43 Dec 72

Twelve mobile trailers are part of an experimental program of itinerant'' vocational education. (Author)

Descriptors: Audiovisual Aids/ Cost Effectiveness/ *Mobile Classrooms/ *Mobile Educational Services/ *Relocatable Facilities/ *School Shops/ *Vocational Education

Identifiers: Itinerant Classrooms/ New Jersey

EJ069759 EA503312

Mobile Classrooms Bring Vocational Education to Rural America

Burnett, E. C.

American School and University, 45, 4, 42-44 Dec 72

A fully equipped mobile machine shop training unit serves five counties. (Author)

Descriptors: Career Education/ Cost Effectiveness/ *Mobile Classrooms/ Mobile Educational Services/ *Relocatable Facilities/ *Rural Areas/ *School Shops/ *Vocational Education

Identifiers: Arkansas

EJ055729 EA502521

What Schools Are Doing: A Roundup of New and Unusual School Practices

Nation's Schools, 89, 4, 62-64 Apr 72

Descriptors: *Cross Age Teaching/ *Educational Innovation/ Mobile Classrooms/ Ornamental Horticulture/ *School Activities / *Teacher Interns/ *Vocational Education

EJ054563 VT503463
Making Summer Instruction Meaningful--Via Mobile Vo-Ag Classroom
Wedeking, Irving C.
Agricultural Education Magazine, 44, 11, 275-276 May 72
Descriptors: Agricultural Education/ *Developmental Programs/ Educational Objectives/ Educational Research/ *Mobile Classrooms/ *Mobile Educational Services/ Program Descriptions/ *Summer Programs/ *Vocational Agriculture

EJ043889 AA510490
A Cargo of Career Education
Wood, Walter
American Education, 7, 8, 16-20 Oct 71
The activities of a mobile classroom serving six counties on the Eastern Shore of Maryland are described. (CK)
Descriptors: *Career Planning/ *Mobile Classrooms/ *Vocational Education
Identifiers: *Maryland State Department of Education/ MSDE

EJ039871 VT502604
Checker Training Is Rolling In Washington State
Logan, K. Otto
American Vocational Journal, 46, 5, 56-58 May 71
History of a mobile classroom. (Editor)
Descriptors: Career Opportunities/ *Food Service Industry/ *Food Stores/ *Job Training/ Merchandising/ Mobile Classrooms/ Mobile Educational Services/ *Program Descriptions/ *Vocational Education
Identifiers: *Cashier Checker Training

EJ037915 VT502427
Round-Robin* Auto Tune-up Program
Smith, Howard
Industrial Arts and Vocational Education, 60, 5, 27-28 May/Jun 71
This mobile classroom brings automotive courses to many students and trainees. (Editor/GB)
Descriptors: Adult Education/ *Auto Mechanics/ Mobile Classrooms/ *Mobile Educational Services/ *Occupational Information/ Secondary Education/ *Vocational Education

EJ004561 VT500319
Buses Take Technical Training To Students In Rural Schools
Amer Vocat J, 44, 5, 74 69 May
Descriptors: *Electronics/ *Mobile Classrooms/ Program Descriptions/ *Rural Schools/ *Trade and Industrial Education

EJ002432 AA500948
Schoolrooms On the Go
Pearson, Gaynor
Amer Educ, 5, 3, 27-28 69 Mar
Descriptors: Culturally Disadvantaged/ Disadvantaged Youth/ *Educational Facilities/ Federal Aid/ *Mobile Classrooms/ *Mobile Laboratories/ Reading Programs/ Remedial Programs/ Vocational Education

ED175584 RC011313
Texas Migrant Council, Inc.
Villarreal, Oscar L.
Texas Migrant Council, Inc., Laredo.
12p.
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Geographic Source: U.S./ Texas

Operating various programs, the Texas Migrant Council, a multi-service agency, administers assistance to migrants during their stay in their home base state, as well as on their migrant trek. Its Head Start program serves mobile migrant children from the ages of 0 to 5 and gives continuity of services by following them to the northern states during the summer months. The program also seeks to hire staff from the migrant population and develop a strong training program that will aid them in their career development. Nutrition and health services are provided. The Home Start program helps parents teach at home what Head Start teachers offer in classrooms. Nutrition, health, education and social-psycholonical services are rendered to the whole family. The Human Development Program initiates new services or adapts existing services and brings them together to meet the families' comprehensive needs. The Council offers a training program for migrant health aides, and a CETA (Comprehensive Employment Training Act) program that enables a migrant to decide on new employment goals and to receive the services that will enable him to fulfill his plan. The Teen Start program provides two teen centers where young people can spend their leisure time engaging in constructive activities to fully develop their individual capacities and alienate them from a potential delinquency environment. A Child Abuse prevention program is also offered. (DS)

Descriptors: *Agency Role/ Child Abuse/ Early Childhood Education/ Educational Programs/ Employment Opportunities/ Health Services/ Job Training/ Mexican Americans/ Migrant Adult Education/ Migrant Children/ *Migrant Education/ *Migrant Worker Projects/ Migrant Youth/ Mobile Educational Services/ *Vocational Education

Identifiers: Project Head Start/ *Texas Migrant Council

ED175583 RC011312
An Opportunity to Choose.
Texas Migrant Council, Inc., Laredo.
16p.
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Geographic Source: U.S./ Texas

Since 1969 a bright yellow van with "Texas Migrant Council" painted on the side has symbolized hope for progress for thousands of Texas migrants. The van itself is a mobile school that follows migrant families out of their home base state of Texas to northern labor camps each summer. It brings with it books, teachers, health care, hot food and programs for the children and adults. The van also symbolizes a wide variety of services waiting back home. Besides the mobile Head Start program for children up to 5 years of age, the Council offers a Home Start program to train parents in remote areas in teaching their young children the same skills taught in a Head Start Program. The Teen Start program offers recreation, counseling, tutoring and job placement at eight centers. The Manpower Program helps migrants learn skills for better paying occupations, pays them wages for learning, and finds them jobs. Alcoholism projects, drug avoidance campaigns, child abuse prevention, educational television series, and coordination with outside agencies are among the other services offered. For the quarter million migrant families living in the Texas Lower Rio Grande Valley, the Council brings options few have ever had before of self help, social advancement, and the opportunity to choose. (Author/DS)

Descriptors: *Agency Role/ Alcoholism/ Child Abuse/ Early Childhood Education/ Educational Programs/ Employment Opportunities/ *Health Services/ Job Training/ Mexican Americans/ Migrant Adult Education/ Migrant Children/ *Migrant Education/ *Migrant Worker Projects/ Migrant Youth/ *Mobiln Educational Services/ Parent Participation/ *Vocational Education

Identifiers: Project Head Start/ *Texas Migrant Council

ED167698 CE017025

Careers Resource Project Utilizing a Mobile Unit Design. Final Report. Report No. 5-78T-D.

Indiana Vocational Technical Coll., Evansville, Ind.

30 Jun 77 52p.; The letters of appreciation, which conclude this document, may not reproduce well due to broken type

Sponsoring Agency: Indiana State Board of Vocational and Technical Education, Indianapolis.

EDRS Price - MF01/PC03 Plus Postage.

Language: English

Geographic Source: U.S./ Indiana

A project was conducted to implement seven objectives: (1) through provision of career information, consultations, and inservice training, offer a systematic, articulated, and comprehensive (K-12) career education program to schools requesting assistance; (2) increase utilization and availability of vocational/career education resources in the project service area; (3) through a public relations program and liaison coordinator of local project efforts, provide a broad vocational education information range for dissemination purposes; (4) foster interinstitutional cooperation through shared use of project personnel, equipment, and materials; (5) upon request make available to high schools (grades 9-12) an organized and systematic school-based comprehensive placement model; (6) continue to give community support and direction by maintaining an active vocational advisory counsel; and (7) account for objectives' implementation by using a state monitor and by having the careers resource project evaluate its own activities. All objectives were reached. The career education activities were instilled by using the following: inservicing of teachers, counselors, and administrators; materials library; mobil units; newsletters; and test instruments (Student Career Orientation Profile). These methods were made available to a school as a total service package. (The report contains project contact records and correspondence.) (CSS)

Descriptors: Advisory Committees/ Career Education/ *Career Exploration/ *Consultation Programs/ *Educational Resources/ Elementary Secondary Education/ *Information Dissemination/ Information Sources/ Inservice Education/ Interinstitutional Cooperation/ Job Placement/ *Mobile Educational Services/ Objectives/ *Occupational Information/ Program Evaluation/ Vocational Education

ED152459 88 RC010429

A Career Education Program for Rural School Districts - ACTION (Allen County Team for Individualized Occupational Needs).

Humboldt Unified School District 258, Kans.; Iola Unified School District 257, Kans.; Marmaton Valley Unified School District 256, Kans.

76 13p.

Sponsoring Agency: Kansas State Dept. of Education, Topeka. Educational Improvements and Development.; Office of Education (DHEW), Washington, D.C. Projects to Advance Creativity in Education.

EDRS Price MF-$0.83 HC-$1.67 Plus Postage.

The Allen County Team for Individualized Occupational Needs (ACTION) Project is a cooperative career education project developed by three rural Kansas school districts and their communities. The participating high schools have enrollments of 500, 400, and 200 students. The ACTION Project is designed to provide quality career education through a shared approach which eliminates duplication of expensive staff, curriculum, and equipment. Three portable trailers (each a specially equipped classroom laboratory for either industrial and technical, business, or service career education) rotate among the districts; the laboratory instructor for each component moves with the classroom. Each student spends one-third of the course in each of the career areas. In addition to the one-hour-per-day class, directed at students at all high school levels, ACTION merges the career education concept with existing curriculum in other courses through teacher workshops. Four advisory committees include teachers, students, business and industry representatives, and a citizen council. Community resources are used both through talks to classes by local citizens and student field trips and interviews. In its second year (1973-74), ACTION has received positive community and student evaluation. (RS)

Descriptors: Advisory Committees/ Business Education/ *Career Education/ *Community Resources/ *Interdisciplinary Approach/ *Mobile Educational Services/ *Program Descriptions/ *Rural Areas/ School Districts/ Secondary Education/ Service Education/ *Shared Services/ Technical Education

Identifiers: Kansas

ED136048 08 CE010222

The Northwest Area Schools Multi-District Secondary Occupational-Vocational Training Program. Vocational Education by Mobile Units. Report on an Exemplary Project.

Drenkhahn, Clarence

Northwest Area Schools Multi-District Secondary Occupational-Vocational Education Center, Lemmon, S. Dak.

76 36p.

Sponsoring Agency: Bureau of Occupational and Adult Education (DHEW/OE), Washington, D.C.; South Dakota State Div. of Vocational Education, Pierre.

EDRS Price MF-$0.83 HC-$2.06 Plus Postage.

This report discusses the objectives of an exemplary project in sparsely populated southwestern South Dakota which involved nine schools' efforts in the past three years (1974-76) in bringing a variety of vocational education courses to students that none of the districts would have been able to undertake individually, because limited financial resources and the small number of students in each would not have made such educational opportunities feasible. The publication is designed to show the degree to which project objectives have been achieved, and also to provide information which other schools in sparsely populated areas might use in implementing a program of vocational education opportunities through use of relocatable, self-contained facilities. Discussion specifically covers project initiation, general and specific purposes, multi-district inception, activities preceding application for project, the program in operation, course codes, advisory committees, rotation schedules of mobile units, the multidistrict curriculum philosophy, multidistrict staffing, governance, finance and budgeting, and project appraisal. Detailed course descriptions are provided for the areas of General Metals, Building Trades, Electricity/Electronics, Auto Mechanics, Agricultural Technology I (Plant and Soil Science), Quantity Food Occupations, Health Occupations, Sales and Distribution, and Agricultural Technology II (Animal Science and Range Management). (HD)

Descriptors: Adult Education/ Course Descriptions/ Demonstration Projects/ *Mobile Classrooms/ Program Descriptions/ *Program Development/ Program Evaluation/ Regional Programs/ *Relocatable Facilities/ *Rural School Systems/ Secondary Education/ *Vocational Education

Identifiers: *South Dakota

ED132169 TM005879

Evaluation of Career Education Projects, 1975-1976. Report No. 7715.

Chern, Hermine J.; And Others

Philadelphia School District, Pa. Office of Research and Evaluation.

Sep 76 - 153p.

Report No.: PSD-7715

EDRS Price MF-$0.83 HC-$8.69 Plus Postage.

The evaluations of 26 career education programs which operated in the Philadelphia, Pennsylvania school district from July 1, 1975 to June 30, 1976 are contained in this report. Generally the projects achieved their objectives, with only a few exceptions. Indications are that the career development programs currently in progress in Philadelphia are well adapted to the environment in which they are expected to function, and have been developed in accordance with the actual needs of the students they are intended to serve. Of the 26 projects evaluated, eleven of these were primarily concerned with classroom or shop instruction, six with curriculum development, and five with guidance activities. The other four projects involved staff development, job placement, and the development and refinement of a computer management system for the skills centers. Information is presented for each program separately and includes budget, project description, project history, objectives, project implementation, and project outcomes: evaluation questions, discussion, and conclusions and recommendations. (RC)

Descriptors: *Adult Education/ Adult Vocational Education/ Bilingual Education/ *Career Education/ Career Planning/ Computer Oriented Programs/ Consumer Education/ Counselor Training/ Distributive Education/ Educable Mentally Handicapped/ Elementary Secondary Education/ Evaluation Methods/ Guidance Programs/ Home Economics Education/ Homemaking Education/ Individualized Instruction/ Instructional Materials/ Job Placement/ Medicine/ Mobile Educational Services/ Parochial Schools/ Pregnant Students/ Program Development/ Program Effectiveness/ *Program Evaluation/ Public Schools/ Resource Centers/ School Districts/ Special Education/ Vocational Education

Identifiers: Pennsylvania (Philadelphia)/ *Philadelphia School District

ED115905 CE005753

Mobile Occupational Development Education Laboratories Project MODEL. July 1, 1974 through June 30, 1975, Final Report.

Massachusetts State Dept. of Education, Boston. Div. of Occupational Education.; Nashoba Valley Technical High School, Westford, Mass.

Aug 75 64p.

Sponsoring Agency: Office of Education (DHEW), Washington, D.C.

EDRS Price MF-$0.76 HC-$3.32 Plus Postage

Included in the report of Project MODEL's final year of operation as a Federally-funded educational project is a brief description of the project and an examination of its various operational activities. The project was originally designed to test the effectiveness of a specialized form of instruction for specific groups (physically and mentally handicapped, the incarcerated, ethnic minorities, and other socioeconomically disadvantaged) and to demonstrate their instruction to agencies which serve these groups. To deliver these programs of entry-level skill training or vocational assessment and orientation, four mobile units dealing in business education, distributive education, small engine repair/auto tune-up, and vocational evaluation were utilized. An outline of the project's 10 major objectives and their status and disposition are presented. A third party evaluation was conducted to assess the productivity and effectiveness of the project in reaching and dealing with five distinct groups: corrections, retarded, handicapped, disadvantaged, and racial and ethnic minorities. The evaluation was uniformly quite favorable. A rationale for the continuation of the project's concepts and operation as a private non-profit organization are presented. Tables and charts supplement the discussion on the project's operations and activities. (Author/EC)

Descriptors: Demonstrations (Educational)/ *Disadvantaged Groups/ Educational Objectives/ *Educational Programs/ Federal Programs/ Handicapped/ Minority Groups/ *Mobile Educational Services/ Mobile Laboratories/ *Program Descriptions/ Program Evaluation/ Rehabilitation Programs/ *Special Education/ Vocational Education

Identifiers: *Project MODEL/ Vocational Evaluation

ED113120 95 RC008836
The Brown Paper: Education and Chicanos in New Mexico, 1973-74.
Quintana, Francis, Comp.
New Mexico Highlands Univ., Las Vegas.
74 69p.
Sponsoring Agency: Office of Education (DHEW), Washington, D.C.
EDRS Price MF-$0.76 HC-$3.32 Plus Postage

Goals of the New Mexico Chicano Mobile Institutes were to: improve the quality and equality of education to meet the needs of Chicano students in public and private institutions of higher learning throughout the State; and prepare personnel in higher education to meet the needs of students, from low income and ethnic minority families, attending all public and private schools in the State. Persons identified as having some influence on the education of Chicanos in New Mexico were invited to participate in two 2-day institutes. Since participants had to pay for their own expenses, they were asked to participate through correspondence if unable to attend. Of the 158 persons identified, 62 did not respond, 59 corresponded by mail, and 38 actually participated. The first institute identified, defined, organized, and documented all problem areas affecting Chicanos at all educational levels. The second reviewed the problems identified in the first institute, then identified, defined, and related proven innovative solutions to the problems. Both institutes were conducted in a very successful manner. A synopsis of both institutes is given in this paper. Also included are: a list of all people responsible for education in the State; analysis of statewide testing; pupil enrollment by school district; and summaries of four Civil Rights reports pertaining to education in the Southwest. (NQ)

Descriptors: Civil Rights/ Community Involvement/ Early Childhood Education/ *Educational Improvement/ Elementary Secondary Education/ Higher Education/ *Institutes (Training Programs)/ *Mexican Americans/ *Mobile Educational Services/ Post Secondary Education/ State Programs/ State Surveys/ *Student Needs/ Vocational Education
Identifiers: Chicano Mobile Institutes/ *New Mexico

ED103636 CE003234

Project MODEL: Mobile Occupational Development Education Laboratories. Second Annual Report.

Massachusetts State Dept. of Education, Boston. Div. of Occupational Education.; Nashoba Valley Technical High School, Westford, Mass.

Jul 74 82p.; For the first annual report, see ED 096 545

Sponsoring Agency: Office of Education (DHEW), Washington, D.C.

EDRS Price MF-$0.76 HC-$4.43 PLUS POSTAGE

The report presents a record of the second year activities of Project MODEL (Mobile Occupational Development Education Laboratories). Included are a brief description of the project and an examination of the various operation activities; components, the development of nine objectives, their status, and their disposition; financial verification; and a projection. The document serves as a clear indicator of both the successes and difficulties encountered during the second operational year and what has been accomplished to date. The project was designed as an experimental program to help develop in-house, on-going programs in institutions and agencies which serve the handicapped and disadvantaged. Four mobile laboratories (business education, small engine repair, distributive education, and vocational education) are staffed with teachers and aides, and deliver an alternative system of audiovisual, self-paced, individualized instruction which provides the stimuli for learning experiences involving personal interaction, exposure, training, and evaluation. The Project MODEL summer workshop attempted to (1) maintain and repair the mobile units' interiors and exteriors, (2) review the usage and operation of all audiovisual equipment, and (3) computerize the description of its instructional programs in cooperation with Project CAREER. Appended are tables showing student characteristics and services provided. (Author/BP)

Descriptors: Academically Handicapped/ *Autoinstructional Laboratories/ Behavioral Objectives/ *Handicapped Students/ Institutionalized (Persons)/ Job Skills/ *Job Training/ Language Handicapped/ Mentally Handicapped/ *Mobile Classrooms / Physically Handicapped/ *Pilot Projects/ Prisoners/ Program Descriptions/ Vocational Education

Identifiers: Massachusetts/ Project MODEL

ED096545 95 CE002185

Project MODEL (Mobile Occupational Development Education Laboratories): First Annual Report.

Massachusetts State Dept. of Education, Boston. Div. of Occupational Education.; Nashoba Valley Technical High School, Westford, Mass.

Sep 73 423p.

Sponsoring Agency: Office of Education (DHEW), Washington, D.C.

EDRS Price MF-$0.76 HC-$20.94 PLUS POSTAGE

The report presents a record of the first year's activities of Project MODEL (Mobile Occupational Development Education Laboratories), including indepth statements on policies, organizational structures, schedules, financial verification, and projects for the next year of operation. The document serves as a manual of policies and procedures for the project as well as a study of the successes and difficulties of the inservice program. The project was designed as an experimental program to be used to develop inhouse, ongoing programs in institutions and agencies that serve the handicapped and disadvantaged. It is an alternative delivery system for career development in terms of occupational training for the institutionalized, handicapped, and disadvantaged populations in Massachusetts. Four mobile multimedia laboratories, teacher coordinators, and aides provide students with "hands-on self-instructional learning." Instructional programs are compact, lasting from two to twelve weeks. Educational opportunities in each mobile unit are unlimited and diversified enough to meet the basic needs of most students. (Author/AJ)

Descriptors: Academically Handicapped/ *Autoinstructional Laboratories/ Behavioral Objectives/ Curriculum Guides/ *Handicapped Students/ Institutionalized (Persons)/ Job Skills / *Job Training/ Language Handicapped/ Mentally Handicapped/ Mobile Classrooms/ Physically Handicapped/ *Pilot Projects/ Prisoners/ Program Descriptions/ Vocational Development/ Vocational Education

Identifiers: Massachusetts/ Project MODEL

ED093527 32 RC007983

Evaluation of the Impact of ESEA Title I Programs for Migrant Children of Migrant Agricultural Workers. Volume IV--Appendices. Final Report.

Exotech Systems, Inc., Falls Church, Va.

25 Jan 74 180p.; Volume IV of 4 volumes, RC007980-982

Sponsoring Agency: Office of Education (DHEW), Washington, D.C. Office of Planning, Budgeting, and Evaluation.

Contract No.: OEC-0-73-0884

EDRS Price MF-$0.75 HC-$9.51 PLUS POSTAGE

Volume IV of the evaluation report consists of case studies from 10 migrant education projects in 8 of the sample States. These projects were visited in July through September 1973. The case studies give noteworthy or innovative aspects of the projects, detailed descriptions, and the functions. The projects are: (1) Harnett County Summer Migrant Education Project; (2) Pitt County Migrant Education Project; (3) New Jersey Office of Migrant Education Recruiting Program; (4) New Jersey Office of Migrant Education Health Services for Migrant Children; (5) the Archway School; (6) Mobile Educational Unit Program; (7) Pilot V Program; (8) Migrant Summer School - Williamson Central School; (9) Dixon Camp Migrant Infant Care Program; and (10) Vocational Child Development Program - Hamilton Union High School. The observers found that most noteworthy projects, no matter where they were located, what kind of a program they offered, or how much money they had, were characterized by the strong central leadership of the project directors and by the personal dedication of the staff. The appendices include: (1) supplementary data and calculations for the recommended estimation method discussed in Volume I; and (2) the Texas testing results mentioned in Volume II. (NQ)

Descriptors: *Case Studies/ Child Development/ Elementary Grades/ *Federal Programs/ Health Services/ Inservice Education/ Migrant Child Care Centers/ *Migrant Child Education/ Mobile Educational Services/ *Program Descriptions/ *Program Evaluation/ Secondary Grades/ Tables (Data)/ Testing/ Vocational Education

Identifiers: *Elementary Secondary Education Act Title I/ ESEA Title I

ED090738 EC061843
Mobile Unit to Provide Vocational Evaluation for Handicapped Children. Final Report.
Baltimore County Board of Education, Towson, Md.
73 131p.
Sponsoring Agency: Social and Rehabilitation Service (DHEW), Washington, D.C. Div. of Research and Demonstration Grants.
Bureau No.: RD-3225
EDRS Price MF-$0.78 HC-$6.97 PLUS POSTAGE

Presented is the final report of a 3-year project (1970-73) to provide vocational evaluation in a mobile unit for the 330 intellectually limited students in grade 10 special classes in the Baltimore County schools. Main project aims are given to be evaluation at home schools and subsequent development of recommendations for using school and community resources to help students attain economic independence. The literature on vocational improvement is reviewed, and investigations of mobile units are summarized. Described are the county, school system, special curriculum students, and community services. Service delivery by the mobile unit is seen to have included aspects such as unit design and preparation for arrival at schools. Explained is the evaluation system which involved sequential exploration of the student's history, level of functioning, and career potential through psychometric tests and work samples on five Tower system tasks (clerical work, electronics assembly, mail clerking, sewing, and workshop assembly). Among findings reported are significantly consistent, uniform, and standardized assessment in the mobile unit; improvement in student self concept due to individual appraisal of potential combined with recommendations; parents' approval of the evaluation; and extension of the evaluation to include all types of students. (Given in appendixes that consist of almost half the document are descriptions of program components, a profile of student characteristics, and representative evaluation forms.) (MC)

Descriptors: Aptitude Tests/ Curriculum/ *Educable Mentally Handicapped/ *Exceptional Child Education/ Mentally Handicapped/ *Mobile Classrooms/ *Program Evaluation/ Vocational Aptitude/ Vocational Education/ Vocational Interests

Identifiers: Baltimore/ *Vocational Evaluation

ED079889 EC052243

Exemplary Programs for the Handicapped. Volume II. Career Educatoion, Case Studies.

Bergstein, Patricia; And Others

Abt Associates, Inc. Cambridge, Mass.

Jun 73 132p.

Sponsoring Agency: Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.; National Inst. of Education (DHEW). Washington, D.C. Task Force on Dissemination.

Report No.: AAI-73-83

Contract No.: OEC-0-72-5182

EDRS Price MF-$0.76 HC-$6.97 PLUS POSTAGE

Described are six career education programs for handicapped youth selected as exemplary because of elements worthy of further study or replication. Presented in the form of case studies, each program is examined in terms of program operations, notable features, people, evaluation, recommendations, and informational sources. Described are the following programs: Career Development Center (Syosset, New York) offering students (ages 15 to 21 years) with adjustment problems occupational and academic education in an individualized approach; Mobile Unit for Vocational Education (Towson, Maryland) utilizing a mobile van to assess employment potential through work sample exploration in 10th grade students from special education classes; Project SERVE (Special Education, Rehabilitation, and Vocational Education) in St. Paul, Minnesota, serving handicapped students (ages 14 to 21 years) with emphasis on interagency cooperation and the generation of new SERVE programs; Project Worker (Fullerton, California) using a video tape curriculum to teach job entry skills to high school handicapped students; Technical Vocational Program for Deaf Students (also in St. Paul) providing post-secondary training in conjunction with an area vocational institute serving hearing students; and Vocational Village (Portland, Oregon) applying a personalized program of career education to high school dropouts. (See EC 052 242, EC 052 244, and EC 052 245 for related information). (DB)

Descriptors: Adolescents/ Case Studies/ Dropouts/ *Exceptional Child Education/ *Handicapped Children/ Individualized Instruction/ *Innovation/ Interagency Cooperation/ Mobile Classrooms/ *Program Descriptions/ Program Evaluation/ Video Tape Recordings/ *Vocational Education

Identifiers: Fullerton, California/ Portland, Oregon/ St. Paul, Minnesota/ Syosset, New York/ Towson, Maryland

ED043416 RC004682

The Indian Student, Parent and Family--A Summary of Montana Educational Programs.

Fitzpatrick, James W.

69 8p.; Paper prepared for American Personnel and Guidance Association Convention (Reno, Nevada, 1969)

EDRS Price MF-$0.76 HC-$1.58 PLUS POSTAGE

The report concerns programs conducted by Montana counselors and educators in their efforts to better meet the needs of the Indian student, parent, and their families. The programs were sponsored by the local school districts, Montana, Department of Public Instruction, Bureau of Indian Affairs, tribal agencies, and the Montana University System. The following were some of the objectives of the programs: improving the school's holding power; developing better home-school relationships; identifying those students with special aptitudes, interests, and needs; establishing an effective counseling program which would promote greater self-understanding and more realistic educational and career planning of Indian students; and providing Indian families with general education in the basic skill areas. Included in the document are opinions and ideas of participants of an Indian Education Conference conducted by the Department of Instruction of Montana. (EL)

Descriptors: Adult Education/ *American Indians/ *Career Planning/ Counseling/ Curriculum Development/ *Education/ *Federal State Relationship/ Guidance Services/ Higher Education/ Mobile Educational Services/ Recreation/ Remedial Instruction/ School Community Programs/ *School Holding Power/ Vocational Education

Identifiers: *Montana

ED020030# RC000519

APPALACHIA TRIES A CO-OP.

RHODES, CHARLES W.

27MAY68

DOCUMENT NOT AVAILABLE FROM EDRS.

EDUCATORS AT THE APPALACHIA EDUCATIONAL LABORATORY IN CHARLESTON, WEST VIRGINIA, HAVE MODIFIED THE EDUCATIONAL PARK CONCEPT TO TAKE ADVANTAGE OF SCHOOL CONSOLIDATION WHILE MAINTAINING A PERSONAL RELATIONSHIP BETWEEN TEACHER AND PUPIL. AS PROPOSED, THE EDUCATIONAL COOPERATIVE WOULD CONSIST OF A CENTRAL FACILITY, JOINTLY CONSTRUCTED BY SMALLER SCHOOLS IN THE AREA CONCERNED. FROM THIS FACILITY, TELEVISED LECTURES BY MASTER TEACHERS IN A WIDE RANGE OF SUBJECT MATTER AREAS WOULD BE TRANSMITTED TO LOCAL SCHOOLS. A FLEET OF MOBILE LABORATORIES WOULD BE SCHEDULED AND DISPATCHED FROM THE CENTRAL FACILITY TO PARTICIPATING SCHOOLS. PROPOSED COMPONENTS OF A CO-OP OF THIS SIZE INCLUDE EDUCATIONAL TELEVISION, MOBILE FACILITIES, COMPUTER ASSISTED INSTRUCTION, SHARED COURSES, EARLY CHILDHOOD EDUCATION, AND VOCATIONAL GUIDANCE. FIELD TESTS ARE BEING CONDUCTED IN 6 APPALACHIAN STATES, EACH CONCENTRATING ON A SINGLE PHASE OF THE PROPOSED CO-OP. EVALUATION HAS ALSO BEEN UNDERTAKEN ON AN INTERACTION ANALYSIS TECHNIQUE DESIGNED TO AID IN-SERVICE TEACHERS IN DETERMINING THE DEGREE OF FREEDOM A STUDENT MAY BE ALLOWED IN EXPRESSING HIMSELF, WHILE PERMITTING CONTROL BY THE TEACHER. THIS ARTICLE APPEARS IN "EDUCATION NEWS," VOL. 2, NO. 10, MAY 27, 1968, PAGE 12. (DA)

Descriptors: Computer Assisted Instruction/ Cooperative Education/ Culturally Disadvantaged/ Early Childhood Education / *Educational Parks/ Educational Television/ Evaluation/ Guidance Services/ *Instructional Media/ Language Standardization/ Mass Media/ *Mobile Laboratories/ Physics Instruction/ Rural Environment/ *Rural School Systems/ *Shared Services/ Small Schools/ Specialists/ Student Teacher Relationship/ Telecourses/ Vocational Education

Identifiers: APPALACHIA EDUCATIONAL LABORATORY

19/6/1
EJ292207
Mobile Marine Museum.

19/6/2
EJ290946
Women's Mobile Campus.

19/6/3
EJ28739[illegible]
Artrain's "Uniquely American" to Tour the Golden State.

19/6/4
EJ282247
The Effect of Mobile Group Counseling on Nomadic Fulani's Attitudes Toward Formal Education.

19/6/5
EJ267404
Workshops on Wheels Bring Training to the Day Care Door.

? T19/6/6-10
19/6/6
EJ266752
CE Footprints on Arizona Highways.

19/6/7
EJ262045
Mobile Training for Directors of Day Care.

19/6/8
EJ245288
Consumer Skills.

19/6/9
EJ243136
Are Mobile Education Units Effective in School Health Programs?

19/6/10
EJ243135
The Mobile Seminar: Adventure in Expanding the Classroom.

T19/6/11-15
19/6/11
ED218999
The Itinerant Teacher Service, Queensland 1901-1930.

19/6/12
ED242603
Elementary Instrumental Music Program.

19/6/13
ED242454
P.C.A.P. Project Profiles and General Profilles. Queensland Priority Country Area Program-Evaluation Series.

19/6/14
ED241517
The Computer Experience Microvan Program: A Cooperative Endeavor to Improve University-Public School Relations through Technology.

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19/6/15
ED239614
Computers on Wheels.

? T19/6/16-20
19/6/16
ED238644
A Unique Delivery System to Rural Schools: The NMSU-Space Cent
Microcomputer Van Program.

19/6/17
ED224081
The Mobile Field Study Unit in South-West Queensland. Priority Countr
Area Program Evaluation Series: Report No. 9.

19/6/18
ED215783
An Eas. Guide to Developing an Emergency Child Care System (Free Chil
Care in the Aftermath of Major Disasters).

19/6/19
ED211305
Individualized Bilingual Instruction. Final Evaluation: 1978-79 Program
Year. No. 15 in Series.

19/6/20
ED206432
P.C.A.P. Project Profiles. Queensland Priority Country Are
Program--Evaluation Series.

? T19/6/21-22
19/6/21
ED206131
The Mobile Remedial Unit in South-West Queensland. Priority Country Are
Program Evaluation Series: Report No. 6.

19/6/22
ED203646
An Effective and Convenient Approach to the Inservice Preparation of
Teachers of Mainstreamed Exceptional Children.

? T19/5/5,7,8,10,14,15,16
19/5/5
EJ267404 PS511389
Workshops on Wheels Bring Training to the Day Care Door.
Mauk, Pamela; Gogerty, Patrick L.
Children Today, v11 n3 p7-10,35 May-Jun 1982
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)
Describes a program for training day care providers in which resource specialists visited caregivers in Seattle and surrounding suburban an rural areas in a specially equipped and staffed van. Outcomes of th program as well as trainee characteristics are reported. (RH)
Descriptors: *Child Caregivers; *Day Care; Early Childhood Education; *Mobile Educational Services; Participant Characteristics; Program Descriptions; Program Evaluation; *Skill Development; *Training
Identifiers: Washington (Seattle)

BEST COPY AVAILABLE

19/5/7
EJ262045 PS511220
Mobile Training for Directors of Day Care.
Axelrod, Pearl; And Others
Young Children, v37 n3 p19-24 Mar 1982
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)

Describes the design, implementation, and impact of the Mobile Trainin for Directors of Day Care Centers (MTDDC) Program, a program that wa created to provide directors with information to improve thei administrative and organizational skills. (Author/RH)

Descriptors: *Day Care; Early Childhood Education; *Managemen Development; *Mobile Educational Services; Postsecondary Education *Program Administration; Program Descriptions; Program Effectivenes Training; Workshops

19/5/8
EJ245208 CE511068
Consumer Skills.
Gindele, John; And Others
VocEd, v56 n5 p45-52 Jun 1981
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); TEACHING GUIDE (052); PROJEC DESCRIPTION (141)

Consumer education activities for secondary, adult, and special need students are described in "What Does It Cost to Run a Home?" by John an Joseph Gindele; "Taking the Show on the Road" by Linda Lewis; "Special Hom Ec Program" by Marty Nelson; and "Understanding Civil Law" by Michael Weis (SK)

Descriptors: Adult Education; *Consumer Education; Daily Living Skills *Home Economics; *Home Management; Homemaking Skills; *Mobile Educationa Services; Secondary Education; *Special Education
Identifiers: *Civil Law; *Mock Trials

19/5/10
EJ243135 SP510558
The Mobile Seminar: Adventure in Expanding the Classroom.
Merki, Don
Health Education, v12 n1 p23-25 Jan-Feb 1981
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)

One method of eliminating the restrictions of the traditional classro is the mobile seminar, a traveling class designed to provide students an faculty with new opportunities for professional and personal growth. (JD)

Descriptors: *Field Trips; *Health Education; Higher Education; Leg Responsibility; *Mobile Educational Services; School Responsibilit *Seminars; *Travel

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19/5/14
ED241517 SP024003
The Computer Experience Microvan Program: A Cooperative Endeavor to Improve University-Public School Relations through Technology.
Amodeo, Luiza B.; Martin, Jeanette
[1982] 10p.
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Document Type: PROJECT DESCRIPTION (141)
Geographic Source: U.S.; New Mexico
Journal Announcement: RIEJUL84

To a large extent the Southwest can be described as a rural area. Under these circumstances, programs for public understanding of technology become, first of all, exercises in logistics. In 1982, New Mexico State University introduced a program to inform teachers about computer technology. This program takes microcomputers into rural classrooms (via a van that travels throughout the state) in order to introduce microcomputer technology and its potentials for educational programs to students and teachers. The program's organizational structures involves support from the International Space Center, the International Hall of Fame Foundation, New Mexico State University, and Texas Instruments Corporation. The van program cost for schools is $150 per day. Objectives of the project encompass: (1) computer awareness; (2) computer literacy; and (3) hands-on machine time. The van project has been effective in improving university relations with public elementary and secondary schools. (JMK)

Descriptors: *College School Cooperation; Computer Literacy; Educational Technology; Elementary Secondary Education; Information Dissemination; *Inservice Teacher Education; *Learning Experience; *Microcomputers; Mobile Classrooms; *Mobile Educational Services; Outreach Programs; *Program Development; Program Effectiveness; Rural Education; School Business Relationship; Staff Development; Student Participation
Identifiers: *New Mexico State University

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19 5/15
ED239614 IR020067
Computers on Wheels.
Rosemead Elementary School District, CA.
1984 2p.; Prepared at Emma W. Shuey School.
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Document Type: PROJECT DESCRIPTION (141)
Geographic Source: U.S.; California
Journal Announcement: RIEJUN84

THE FOLLOWING IS THE FULL TEXT OF THIS DOCUMENT: How does a school provide the computer learning experiences for students given the paucity of available funding for hardware, software, and staffing? Here is what one school, Emma W. Shuey in Rosemead, did after exploratory research on computers by a committee of teachers and administrators. The computers come to the students Computers are on three mobile carts--one carrying an Apple IIe, the second a Commodore 64, and the third holding six Commodore VIC-20 machines linked to a disk drive. Room was not available for a computer lab or the staffing for such a lab: thus, the necessity for placing computers on "wheels." Student assistants from the 5th and 6th grades roll out the computers from the library each morning to various classes. The program started with the 5th and 6th graders, getting familiar with both the operation of each computer and its supporting software. These students now serve as a cadre of tutors to help those in the lower grades. The use of lightweight earphones allows each computer user aural feedback without disturbing other students in the same classroom. The educational goal is to give each student in the school repeated opportunities for learning experiences on the computer. In addition to becoming proficient in basic computer operations, computer-assisted instruction is being accomplished in various subject areas. Starting with the 5th and 6th graders in October, the program expanded to include 2nd, 3rd, and 4th graders in January. There have also been community computer nights providing parents and friends with the opportunity to visit the classroom and share their children's learning experiences. In addition, a computer club meets twice a week learning some basics in programing. This computer program--one that sends the computers to the students--has worked very smoothly. Enthusiasm runs high with both students and teachers. Looking to the future, the computer committee seeks to enrich this program even further. This document was selected by the Association of California School Adminstrators (ACSA) Task Force on Public Confidence as descriptive of a promising practice or exemplary project worthy of highlighting for the California educational community. (Author)

Descriptors: *Computer Assisted Instruction; *Computer Literacy; *Cross Age Teaching; Demonstration Programs; Elementary Education; *Microcomputers; *Mobile Laboratories; Program Descriptions; Tutoring
Identifiers: PF Project

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19/5/16
ED238644 RC014516

A Unique Delivery System to Rural Schools: The NMSU-Space Center Microcomputer Van Program.

Amodeo, Luiza B.; And Others

Oct 1983 11p.; Paper presented at the National Rural Education Association Conference (Manhattan, KS, October 15-18, 1983).

EDRS Price - MF01/PC01 Plus Postage.

Language: English

Document Type: PROJECT DESCRIPTION (141); CONFERENCE PAPER (150)

Geographic Source: U.S.; New Mexico

Journal Announcement: RIEMAY84

Collaboration between New Mexico State University's College of Education and three other entities has led to the computer experience microvan program, implemented in 1983, a unique system for bringing microcomputers into rural New Mexico K-12 classrooms. The International Space Hall of Fame Foundation provides the van. International Space Center staff provide administrative coordination and support for scheduling. Texas Instruments Corporation (TI) supplies the microcomputers and software (including the TI LOGO Curriculum Guide, based on Piaget's theory of intellectual development), and the College provides two instructors who travel with the van, plus various support and maintenance functions. Participating school districts pay $150 per day per visit in program cost so they will feel a commitment to effective utilization of the program. Primary project objectives are computer awareness, computer literacy, and hands-on machine time for students and teachers. Students receive instruction during the school day, after which teachers are provided with more detailed instruction and review of available software. First-year evaluations are positive. Rural teachers, many of whom experienced anxiety about computers, are reassured to learn that the van personnel are professional educators, not computer scientists. Rural students benefit from exposure to microcomputers. Participants want the van to return so they can have more hands-on computer time. (MH)

Descriptors: Agency Cooperation; *Computer Literacy; Computer Programs; *Cooperative Programs; Educational Cooperation; Educational Innovation; Educational Objectives; Elementary Secondary Education; Higher Education; Inservice Teacher Education; *Itinerant Teachers; *Microcomputers; *Mobile Educational Services; Program Costs; Program Descriptions; Program Evaluation; Rural Areas; *Rural Education; Rural Schools

Identifiers: Computer Anxiety; International Space Center; International Space Hall of Fame Foundation NM; *New Mexico; New Mexico State University; Texas Instruments

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? SS VOCATIONAL EDUCATION OR AGRICULTURAL EDUCATION OR TRADE A?D INDUSTRIAL C
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          9  2118 TRADE A?D INDUSTRIAL EDUCATION
         10 24318  8 OR 9
? C10AND2

         11     39 10AND2
? SS PY=1980:PY=1985

         12149314 PY=1980:PY=1985
? C11AND12



         13      7 11AND12
? T13/5/1-7
13/5/1
EJ277561  CE513052
  Manpower Development in Saudi Arabia: Education and Training to Produce a
Skilled Work Force.
  Campbell, Clifton P.
  Thrust:   The  Journal  for Employment and Training Professionals.  v4 n2
p21-33 Sum-Fall     1982
  Available from: Reprint: UMI
  Language: English
  Document Type: JOURNAL ARTICLE (080): PROJECT DESCRIPTION (141)
  Saudi Arabia is attempting to build an indigenous skilled labor force  to
meet  manpower  needs.   The   system  includes  five  secondary  vocational
industrial schools. the Higher  Technical  Institute.   prevocational  and
vocational training centers using competency-based.  mediated instructional
materials. and mobile training units for isolated areas. (SK)
  Descriptors:  *Economic Development;  Industrialization:  *Job  Training:
*Labor   Force   Development:    Mobile   Classrooms:   National   Programs:
Postsecondary Education:  Prevocational  Education:   Secondary  Education:
*Technical Education: *Vocational Education: Vocational Schools: Vocational
Training Centers
  Identifiers: *Saudi Arabia
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EJ[illegible]1 CE511594
South Carolina's High Technology Blitz.
Dudley. G. William. Jr.
VocEd. v57 n1 p32-34 Jan-Feb 1982
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)

Discusses a South Carolina project to incorporate high technology training into programs at 16 technical colleges. Also discusses the development of training modules, supervisory training courses, special schools instructor training packages, a statewide system of resource centers, and mobile training units. (CT)

Descriptors: Mobile Educational Services; Postsecondary Education; *Resource Centers; *Statewide Planning; Supervisory Training; Teacher Education; *Technical Education; *Technical Institutes; *Technological Advancement

Identifiers: Robotics; *South Carolina; *Technical Education College System

1[illegible]5/3
ED[illegible]0765 EA017220
Australian Education Council. First Annual Report for 1983.
Australian Education Council, Melbourne.
1984 38p.
EDRS Price - MF01/PC02 Plus Postage.
Language: English
Document Type: GENERAL REPORT (140)
Geographic Source: Australia; Victoria
Journal Announcement: RIEAPR85
Government: Foreign

This report presents the accomplishments and activities of the Australian Education Council in 1983. The council held two meetings in 1983. One, in Canberra, addressed conditions regarding Commonwealth funding for capital purposes, criteria for registration of nongovernment schools, participation of young people in tertiary education, and a national youth policy. The second meeting, held in Adelaide, set up a Task Force on Education and Technology, as well as considering youth policy, aboriginal education, equity, and access to tertiary education, Commonwealth schools and commission guidelines, and new arrangements for recurrent funding of schools. The report gives an overview of major developments in education in New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania, the Northern Territory, and the Commonwealth as a whole. Included in the report are four appendixes. (MD)

Descriptors: Apprenticeships; *Computers; Educational Finance; *Educational Technology; Elementary Secondary Education; Employment; Enrollment; Equal Education; Higher Education; Migrant Education; Mobile Classrooms; Multicultural Education; Reading Achievement; *Reports; Rural Education; School Community Relationship; Science Education; Special Education; Statistics; Surveys; Vocational Education

Identifiers: *Aboriginal People; *Australia

1[illegible]5/4
ED[illegible] CE038895
Alternative Strategies to Improve and Expand the Delivery of Vocational Education in Small, Rural, and/or Isolated Secondary Schools in Hawaii.
Hawaii State Dept. of Education, Honolulu. Office of the Director for Vocational Education.
Aug 1983 83p.
EDRS Price - MF01/PC04 Plus Postage.

Language: English
Document Type: NON-CLASSROOM MATERIAL (055); EVALUATIVE REPORT (142)
Geographic Source: U.S.; Hawaii
Journal Announcement: RIEOCT84
Government: State

Intended for administrators of schools within the Hawaii Department of Education, this document provides descriptions of 34 alternative strategies implemented by small, rural, and/or isolated secondary schools across the nation to improve the quality of their vocational programs. Introductory materials discuss the document's purpose, the need for the study that identified the approaches, limitations of the study, and general conclusions from a concurrent literature review. The descriptions of the strategies follow. Each description provides information under the following headings: definition, purpose, description, planning, staff requirements, multimedia use, initial cost, and additional cost per student. The strategies considered are: area vocational centers, area vocational schools, artists or experts in the school, audiovisual modules, community resource trainers, competency-based/individualized instruction vocational education, computer-assisted instruction, conference calls, the cooperative schools concept, cooperative vocational education, corporate-sponsored school programs, correspondence study, the employment training office option, flexible scheduling, independent studies, individualized instruction, intermediate units, itinerant or circuit teachers, job creation, the learning center system, microcomputers, minicourses, mobile instructional materials, mobile labs, paraprofessionals and aides, phasing, programmed instruction, rural student vocational programs, student exchanges, teacher exchanges, television and radio, two-in-one (teaching two or more subjects simultaneously), two-way televised vocational education, and mining community resources. A summary offers suggestions for choosing a strategy. A bibliography is appended. [illegible]

Descriptors: Competency Based Education; Computer Assisted Instruction; Cooperative Education; Correspondence Study; Educational Methods; Educational Radio; *Educational Strategies; Educational Television; Independent Study; Individualized Instruction; Itinerant Teachers; Job Development; Learning Centers (Classroom); Literature Reviews; Microcomputers; Minicourses; Mobile Laboratories; *Nontraditional Education; Program Descriptions; Programed Instruction; *Rural Schools; Secondary Education; *Small Schools; Student Exchange Programs; Teacher Exchange Programs; Teleconferencing; *Vocational Education

Identifiers: Hawaii; *Isolation (School Districts)

13 5/5
ED2[illegible]8663 RC014545
A Report of Innovative Rural School Programs In the United States.
Barker, Bruce O.; Muse, Ivan D.
Feb 1984 9p.; Paper presented at the National Conference of the People United for Rural Education (7th, Des Moines, IA, February 2-3, 1984).
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Document Type: PROJECT DESCRIPTION (141); CONFERENCE PAPER (150)
Geographic Source: U.S; Utah
Journal Announcement: RIEMAY84

Ten innovative rural school programs are briefly described. Included are North Dakota's Mott School District #6 (316 students), which cooperates in a Multi-District Vocational Mobile Program bringing vocational education opportunities to isolated, rural students; Washington's Liberty School District (180 secondary students), where supervised correspondence courses have expanded curricular offerings to over 100 elective courses; and Iowa's [illegible] Community School District (241 students), which uses volunteers for

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adult continuing education and prekindergarten classes. Also described are Mount Ayr Community Schools (Iowa), where parents use "report cards" to indicate perceptions of teacher/school performance and problems; Wisconsin's Spring Valley School District (784 students), where vocational education classes in dairy cattle management use microcomputers; and South Dakota's Rutland School District (150 students), where modified block scheduling allows secondary students more study time and teachers more instructional time. Additional programs are New York's Sacketts Harbor Central School District (525 students), which offers secondary students a locally-oriented environmental safety course; Minnesota's Eagle Bend School District (378 students), with its own television station; Texas' Sabinal Independent School District (600 students), where students produce their own yearbook and the high school newspaper consistently wins state merit awards; and Kansas' Lorraine Unified School District (540 students), whose annual Seniors Honor Dinner honors outstanding seniors and their parents. (MH)

Descriptors: Agricultural Education; Correspondence Study; *Educational Innovation; Elementary Secondary Education; Gifted; *High School Students; Microcomputers; Mobile Educational Services; Outdoor Education; Parent Participation; *Program Content; Program Descriptions; Rural Education; *Rural Schools; Safety Education; School Districts; *Small Schools; Student Publications; Television; Time Blocks; *Vocational Education

Identifiers: Block Scheduling

13/5/6
ED[illegible] CE033860

A Study into the Possible Use of Mobile Laboratories for Junior High School Industrial Arts and Home Economics.

[illegible], M. W.

Alberta Dept. of Education, Edmonton. Planning and Research Branch.

Jul 1982 45p.

EDRS Price - MF01/PC02 Plus Postage.

Language: English

Document Type: EVALUATIVE REPORT (142)

Geographic Source: Canada; Alberta

Journal Announcement: RIEAPR83

Government: Foreign

A study was conducted in Alberta (Canada) to determine the feasibility of using mobile industrial education and home economics laboratories to provide on-site instructional facilities for junior high schools that do not have sufficient populations to warrant the construction of more permanent laboratories. Information was sought on the flexibility of such mobile units in terms of programs, the ease of mobility of the units, the durability of the units, the costs of investing in mobile units, and the extended costs of using the units. After investigation of these factors, it was decided that mobile laboratories have the potential to facilitate the delivery of similar educational opportunities to the less urbanized areas of the province. It was found that the possibilities extend beyond the industrial education and home economics programs at the junior high school level into many other courses where manipulative hardware is an integral part of the course. Examples of other subjects include typing, microprocessing, and the whole range of prevocational and vocational programs. Use of mobile laboratories is a viable delivery system; use of such a system is a matter of personal perspective. (KC)

Descriptors: Delivery Systems; Feasibility Studies; *Home Economics; *Industrial Education; Junior High Schools; *Mobile Educational Services; *Mobile Laboratories; Outreach Programs; *Program Development; Rural Education; Vocational Education

Identifiers: Alberta

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17/5/7
ED198878 JC810164
Training Community College Faculty in the Techniques and Skills Required for Solar Energy System Installation: Report.
Lee, Robert J.
League for Innovation in the Community Coll., Los Angeles, Calif.
May 1980 68p.
Sponsoring Agency: Department of Education, Washington, D.C. Solar Technology Transfer Div.
Contract No.: EM-78-C-01-4223
EDRS Price - MF01/PC03 Plus Postage.
Language: English
Document Type: PROJECT DESCRIPTION (141); RESEARCH REPORT (143)
Geographic Source: U.S.; California
Journal Announcement: RIEJUL81

Planning, operation, and evaluation outcomes are reported for a project undertaken by the League for Innovation in the Community College to train vocational faculty in the installation of solar energy systems. After introductory material examining the need for a cadre of trained installation instructors at community colleges, the report describes Phase I of the project, which consisted of three, three-day workshops and one, five-day workshop conducted in various locations for faculty from over 40 institutions. This examination of Phase I details: the planning activities of the committee charged with workshop development; criteria for participant selection; the topics covered and the materials used during the workshops; and a revised workshop agenda developed by an evaluative task force. The report then summarizes topics covered at three additional workshops conducted during Phase II, which were modified on the basis of experiences gained during Phase I. This is followed by an outline of the topics and learning objectives of a prototype five-day installation workshop, based on the recommendations of a final task force review. The report concludes with: (1) findings of a mailed survey conducted to identify the solar energy activities of project participants since attending the workshops; and (2) summary recommendations stressing the need to provide instruction relevant to installers, rather than to technicians or engineers. (JP)

Descriptors: *Community Colleges; Course Content; Instructional Materials; Mobile Laboratories; *Solar Radiation; Summative Evaluation; *Teacher Education; *Teacher Workshops; *Technical Education; Two Year Colleges

? C11NOT13
14 32 11NOT13
? T14/6/1-5
14/6/1
EJ161737
Mobile Units for Vocational Training in Rural Brazil

14/6/2
EJ158261
Jobs for Special Needs Students

14/6/3
EJ13[illegible]8
Classrooms on Wheels

14/6/4
EJ122742
Project MODEL: Mobile Labs as a Propagation Device

14/6/5

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EJ089367
  Adult School in Suburban Los Angeles Fills Community Education Role

? L14/ED
          15    17 14/ED
? T15/6/1-5
15/6/1
ED201765
  Alternative  Strategies  for  Delivery  of  Vocational Education to Rural
Schools.

15/6/2
ED195719
  Continuing Education for Electrical Power Technicians. Final Report. June
1976-December 1978.

15/6/3
ED175584
  Texas Migrant Council, Inc.

15/6/4
ED175583
  An Opportunity to Choose.

15/6/5
ED167698
  Careers  Resource  Project Utilizing a Mobile Unit Design.  Final Report.
Report No. 5-761-D.

? 15/5/1-2
          15/5/1-2
          Invalid command code
? T15/5/1-2
15/5/1
ED201765  CE028699
  Alternative  Strategies  for  Delivery  of  Vocational Education to Rural
Schools.
  Jackson, Verdell
  Alaska State Dept. of Education, Juneau.
  Aug 1978   44p.
  EDRS Price - MF01/PC02 Plus Postage.
  Language: English
  Document Type: NON-CLASSROOM MATERIAL (055)
  Geographic Source: U.S.; Alaska
  Journal Announcement: RIEOCT81
  Government: State
  This booklet for educational administrators and  instructors  contains  a
series  of  30  strategies  to overcome problems of delivering a vocational
program in small rural schools.  The strategies,  written in abstract form,
are  intended  for  adaptation  or  modification  for  local  use.  Each is
presented in this format: definition, purpose, description, planning, staff
requirements, multimedia use,  initial  cost,  and  additional  cost  per
student.  These  strategies  are  presented:  cooperative schools concept,
flexible scheduling, phasing, television and radio, learning center system,
correspondence study,  mini-courses,  learning on athletic trips,  teacher
exchange,  computer-assisted  instruction,  conference  call,  in-home
instruction,  independent  study,  intermediate  units,  job  creation,
differentiated  staffing,  programmed  instruction,  two-in-one  mobile
instructional materials,  mobile  labs,  residential  boarding  programs,
teacher interns, community resource trainer, work study, student exchanges,
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cooperative vocational education. rural student vocational programs. itinerant teachers. individualized instruction. and vocational experts in the school. (YLB)

Descriptors: Computer Assisted Instruction: Cooperative Education: Cooperative Programs; Correspondence Study; Delivery Systems: Educational Planning: Educational Radio; *Educational Strategies; Educational Television; Flexible Scheduling; Home Instruction; Independent Study; Job Development; Learning Centers (Classroom); Minicourses; Mobile Laboratories ; *Program Design; *Program Development; Programed Instruction; Program Implementation; Residential Programs; *Rural Schools; Secondary Education; Student Exchange Programs; Student Teachers; Teacher Exchange Programs; Teleconferencing; *Vocational Education; Volunteers; Work Study Programs

15/5/2
ED195719 CE027260
Continuing Education for Electrical Power Technicians. Final Report. June 1976-December 1978.
Tinnell, Richard W., Ed.
Oklahoma State Univ., Stillwater.
1978 247p.; Photographs and some pages will not reproduce well.
Sponsoring Agency: National Science Foundation, Washington, D.C.
Grant No.: SED-76-18811
EDRS Price - MF01/PC10 Plus Postage.
Language: English
Document Type: TEACHING GUIDE (052); PROJECT DESCRIPTION (141)
Geographic Source: U.S.; Oklahoma
Journal Announcement: RIEMAY81

The objective of this project was to develop and test a method of offering technical education to individuals employed in the electrical power industry. Representatives from industry were invited to an advisory council meeting where attention was focused on the needs of the industry. This information was used to define an extensive curriculum, and selected units were identified for implementation. It was decided that the method of presentation would consist of highly structured criteria-based units using sound-on-slide instruction. A significant part of the program was the use of a traveling laboratory housed in a 35-foot semi-trailer. The units were evaluated through pre- and post-testing and were revised. Once a unit was completed, a student text to accompany the unit was produced. Results of the field testing indicate that the project has been successful in meeting its objectives. Additional work in continuing education for particular areas is suggested. (Appended are the following units--Information Booklet, Introduction to Electric Distribution, Distribution Substations, Power Factor Improvement--a sample certificate, and a typescript for Distribution Substations.) (Author/KC)

Descriptors: Adults; *Continuing Education; *Curriculum Development; *Electricity; *Electronic Technicians; Engineering Technology; Industry; Inservice Education; Instructional Materials; *Mobile Laboratories; Off Campus Facilities; *Technical Education; Technology

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      RESULT          18 DOCUMENTS
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        1
AN 009836. 8409.
FS 133.
FY 1984.
ST New Mexico.
PI NM8413301.
NO CN: 951.6.4-03-12.1123. 954.6.4-11-12.1123. 956.1.4-00-12.1123.
TI Vocational Information and Program Services (VIPS).
PD Suarez. Omero
   PHONE: (505) 864-7741.
ON University of New Mexico--Valencia Campus
   351 Rio Communities Boulevard. Belen, NM 87002.
OT College/University.
SA New Mexico State Dept. of Education. Santa Fe.
DI Start Date 01 Jul 83: End Date 30 Jun 84.
FF $60.000.
DN This project also received $61.300 from another section.
TF TEACHER/COORDINATOR.
EL HIGH SCHOOL AND POSTSECONDARY (10-14).
PR MATERIALS DISTRIBUTION.
MJ Instructional-Materials.  Mobile-Educational-Services.
   Resource-Materials.  Rural-Schools.  Technical-Assistance.
MN Bibliographies.  Cost-Effectiveness.  Postsecondary-Education.
   Secondary-Education.  Vocational-Education-Teachers.
ID State.  Proposal.
FP DISSEMINATION OF INFORMATION AND/OR PRODUCTS.
AB Services and resources including supplemental vocational materials
   and demonstration equipment will be provided via mobile units to
   vocational teachers in at least thirty school districts or
   institutions in rural New Mexico.  Two coordinators will provide
   professional contact and assistance in developing materials that
   meet needs of particular students or community programs.  Detailed
   records will be kept of materials loaned and their uses.  A
   bibliography of free loan materials and a cost analysis will be
   delivered. as well as quarterly and final reports.

        2
AN 008511. 8309.
FS 133.
FY 1983.
ST Washington.
PI WA8313323.
NO CN: 83-AFG(157)NB.
TI Updating of the Instructional Curricula in the Latest Technological
   Development in Computer Numeric Control (CNC) Machining Utilizing
   Mobile Equipment Facilities.
PD Bramel. Sally: Brown. David
   PHONE: (206) 878-3710.
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ON Nashville-Davidson County Metropolitan Public Schools
Nashville, TN.
OT Local Education Agency.
SA Tennessee State Dept. of Education, Nashville.
DT Start Date 01 Oct 79; End Date 30 Sep 80.
FF $9,995 (Charged to FY 1979).
DN Product unavailable at NCRVE.
TP TEACHER/COORDINATOR.
EL SECONDARY (7-12).
PR HANDBOOK/GUIDE.
MJ Student-Placement. Student-Evaluation. Mobile-Educational-Services.
Guidance-Programs. Disabilities.
MN Vocational-Aptitude. Secondary-Education. Exceptional-Persons.
ID State. Proposal.
FP HANDICAPPED.
AB One hundred handicapped students entering the Vocational Advancement Program in the ninth or tenth grade will be tested using the Systematic Approach to Vocational Education (SAVE) evaluation to determine vocational strengths and weaknesses, and to help with their placement in regular vocational programs and subsequently in jobs. Part-time testers will conduct the SAVE evaluation from a mobile vocational evaluation center. Reports on each student will be developed based on the SAVE test for use by teachers in course work and job placement. A manual describing procedures and instruments used or developed will be included in the final report. Workshops also will be developed.

19
AN [illegible]. 8[illegible].
PG 132.
FY 1980.
ST Texas.
FI TX8013201.
NO CN: 00230122.
TI Delivery of a Foundry Production Curriculum to Rural School Districts in East Texas through a Mobile Foundry Laboratory.
PD Boone, James L.
PHONE: (713) 845-3016.
ON Texas A&M University
College Station, TX 77840.
OT College/University.
SA Texas Education Agency, Austin.
DT Start Date 01 Aug 79; End Date 30 Jun 80.
FF $40,738.
TP STUDENT.
EL HIGH SCHOOL (10-12).
PR MODEL.
MJ Rural-Areas. Mobile-Laboratories. Foundries. Industrial-Arts.
Experiential-Learning.
MN Models. Career-Education. Delivery-Systems.
School-Business-Relationship. Program-Development.
Curriculum-Development. Secondary-Education.
ID State. Proposal.
FP RURAL EDUCATION.
AB Hands-on experiences in foundry techniques will be provided to industrial education students in rural areas to increase their career awareness and employability. During the first year of the project, a mobile foundry laboratory (MFL) will be planned, designed, and constructed, using equipment supplied by the Texas chapter of the American Foundryman's Society. A curriculum to be

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MJ Delivery-Systems. Mobile-Educational-Services. Program-Development.
Rural-Areas. Rural-Education. Welding.
MN Educational-Research. Formative-Evaluation. Itinerant-Teachers.
Models. Systems-Development.
ID State. Proposal.
PF RURAL EDUCATION.
AB A model vocational education delivery system for providing onsite training in welding to sparesly populated and geographically isolated villages will be researched, developed, field tested, and evaluated. Welding was selected as the program for field testing because of complexities in the requirements, electrical needs. extremely heavy weight, and logistical problems. The report on this project will include details on problems encountered and offer insight into providing vocation training in remote areas accessible only by boat and/or airplane.

16
AN 000558. 8203.
FS 132.
FY 1980.
ST North Dakota.
FI ND8013203.
NO CN: RR-95.
TI Feasibility Study for Mobile Marketing and Distributive Occupational Laboratories in North Dakota.
PD Kohns. Don
PHONE: (701) 777-2518.
OR University of North Dakota
Grand Forks. ND 58202.
OT College University.
SA North Dakota State Board for Vocational Education. Bismarck.
DT Start Date 01 Jul 79: End Date 30 Jun 80.
FF $500.
TP LOCAL ADMINISTRATOR.
EL SECONDARY (7-12).
PF FEASIBILITY STUDY.
MJ Distributive-Education. Rural-Areas. Mobile-Laboratories.
Feasibility-Studies.
ID State. Proposal.
PF NONE OF THESE.
AB To determine the feasibility of establishing a mobile distributive education lab in rural North Dakota. studies and articles related to mobile occupational laboratories will be reviewed. significant features and designs of units will be identified, recommendations concerning the use of the labs will be obtained from experienced vocational educators and curriculum plans will be identified. A final report including recommendations for equipping a mobile lab and organizing a curriculum delivery system will be written.

17
AN 000424. 8401.
FS 132.
FY 1980.
ST Tennessee.
FI TN8013204.
NO CN: E 79.23.
TI Project SAVE. An Articulated Guidance and Placement Program for Handicapped Youth (Continuation).
PD Miller. E. C.
PHONE: (615) 259-5213.

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14
AN 000843. 8101.
FS 132.
FY 1978.
ST Illinois.
FI IL7813227.
NO CN: RD2-A8-623.
TI Identification of Innovative Approaches to Vocational Education in Urban Centers.
PD Deloch, Jessie D.
ON 826 South Ada Street, Chicago, IL 60607.
OT Individual.
SA Illinois State Office of Education, Springfield.
DT Start Date 01 Mar 78; End Date 31 Aug 78.
FF $23,977.
DN Product unavailable at NCRVE.
TP LOCAL ADMINISTRATOR.
EL HIGH SCHOOL (10-12).
PR FEASIBILITY STUDY.
MJ Cooperative-Education. Disadvantaged-Youth. Educational-Innovation. Mobile-Educational-Services. Program-Planning. Urban-Education.
MN Ancillary-Services. Career-Development. Job-Placement. School-Community-Cooperation. Young-Adults.
ID State. Proposal.
PP INNER-CITY EDUCATION.
AB Project objectives are (1) develop and test innovative job and curriculum development procedures as a prerequisite for the future implementation of a transportable urban training model for the disadvantaged; (2) obtain employer commitment to trainee placement and supports as a part of a program development process for at least ten to fifteen urban trainees; and (3) document all pertinent aspects of program planning and development. Procedures will be to conduct core staffing orientation and primary data search; develop brochure onsite presentation; analyze community for potential trainee placement sites according to product or service; establish priority list of potential sites, expand data base on these selected organizations, and make initial contacts; schedule and complete onsite visits; work closely with employers to obtain commitment and tailor curriculum and training delivery; refine final package and incorporate into comprehensive AVTE report.

15
AN 000659. 8203.
FS 133.
FY 1978.
ST Alaska.
FI AK7813303.
NO CN: V85703 (3608-78).
TI Vocational Education Delivery Projects--Welding.
PD Rogers, Sam.
ON Alaska University
Rural Education Affairs Office, 2221 Northern Lights Boulevard, Anchorage, AK 99504.
OT College/University.
SA Alaska State Dept. of Education, Juneau.
DT Start Date 15 Mar 78; End Date 30 Sep 78.
FF $10,000.
TP TEACHER/COORDINATOR.
EL SECONDARY (7-12).
PR MODEL.

FF $15.000.
DN This project also received 15000 in local funds for FY 1978.
TP TEACHER/COORDINATOR.
EL SECONDARY (7-12).
PR CAREER/VOCATIONAL COUNSELING.
MJ Career Exploration. Decision-Making-Skills.
Information-Dissemination. Inservice-Teacher-Education.
Learning-Modules. Mobile-Educational-Services.
MN Career-Choice. Career-Education. Field-Studies. Grade-9.
Grade-10. Instructional-Materials. Program-Evaluation.
Secondary-Schools. Teaching-Procedures.
ID State. Proposal.
PF CAREER DEVELOPMENT.
AB To increase career education development and dissemination, increase the overall awareness of the benefits of career education, promote adoption of a comprehensive career education approach in the central Kansas area, and increase teacher knowledge and awareness of occupational alternatives, project staff will (1) develop instructional procedures for use in grades 9 and 10 to assist students in developing occupational decision-making skills, (2) field test these modules in a minimum of four sites to determine suitability, (3) provide inservice workshop opportunities for teachers and counselors on career education implementation strategies, and (4) provide a career van to make weekly visits to all participating districts to pick up and deliver career-related materials. The set of tested career modules will be available to Kansas educators for ninth and tenth grade classrooms to aid in career decision making.

13
AN 000913. 8203.
FS 132.
FY 1978.
SI Kansas.
FI KS7813203.
NO CN: 78-132-03.
TI Career Exploration Program.
PD Martin, Betty.
ON Liberal Area Vocational-Technical School
Liberal, KS 67901.
OT Local Education Agency.
SA Kansas State Dept. of Education, Topeka.
DT Start Date 01 Jul 77; End Date 30 Jun 78.
FF $5.000.
DN This project also received 11400 in local funds for FY 1978.
TP STUDENT.
EL HIGH SCHOOL (10-12).
PR CAREER/VOCATIONAL COUNSELING.
MJ Career-Education. Educational-Opportunities.
Information-Dissemination. Inservice-Teacher-Education.
Instructional-Materials. Mobile-Educational-Services.
ID State. Proposal.
PF CAREER DEVELOPMENT.
AB Project staff will provide students with information and experiences which will encourage them to assess their own abilities, interests, and attitudes and to develop good self-images. Career materials and teacher inservice programs will be provided, and a van will be used to rotate the materials between the schools of Liberal and six schools in the surrounding area.

ID State. Proposal.
PP HANDICAPPED.
AB The purpose of the project is to match handicapped youngsters abilities and vocational course offerings. as well as relating both of these to opportunities for meaningful employment in the community. Systematic vocational evaluation and guidance will be provided to 126 youngsters currently enrolled or about to be enrolled in the VAP (Vocational Advancement Program). Because youngsters to be evaluated attend school in all parts of the country, a mobile vocational evaluation center consisting of a converted school bus will be used.

11
AN 001131. 8401.
FS 132.
FY 1978.
ST New York.
PI NY7813205.
NO CN: 78-38-727.
TI Mobile Career Exploration Unit.
PD McCormick, John.
ON Monroe Board of Cooperative Educational Services
41 O'Connor Road. Fairport. NY 14450.
OT Intermediate Education Agency.
SA New York State Education Department. Albany.
DT Start Date 01 Feb 78: End Date 30 Sep 78.
FF $43,769.
DN Product unavailable at NCRVE.
TP STUDENT.
EL HIGH SCHOOL (10-12).
PR INFORMATION SYSTEMS.
MJ Audiovisual-Programs. Career-Education. Information-Centers. Mobile-Educational-Services. Occupational-Information.
MN Educational-Opportunities. High-Schools. Manpower-Needs. Secondary-Education.
ID State. Proposal.
PP DISSEMINATION OF INFORMATION AND/OR PRODUCTS.
AB The project will establish a portable career information center to provide component district high schools with an occupational information system which will allow for constant updating of information. A trailer or bus will be equipped with audiovisual projection equipment. Videotapes and slides will be prepared describing the training shops available in the occupational center. Training opportunities will be matched with local business and industry employment needs.

12
AN 000914. 8203.
FS 132.
FY 1978.
ST Kansas.
PI KS7813204.
NO CN: 78-132-04.
TI Career Development Program for the Central Kansas Area.
PD Brooks, Dale.
ON Central Kansas Area Vocational-Technical School
Newton, KS 67114.
OT Local Education Agency.
SA Kansas State Dept. of Education, Topeka.
DT Start Date 01 Jul 77; End Date 30 Jun 78.

ST Washington.

PI WA7813201.

NO CN: 78-AFL(133)NP.

TI Mobile Automatic Transmission Training Program.

PD Smith, Charles R.

ON Olympia Technical Community College
2011 Mottman Road, SW, Olympia, WA 98502.

OT Community/Junior College or Technical Institute.

SA Washington State Commission for Vocational Education, Olympia.

DT Start Date 05 Apr 78; End Date 15 Jan 79.

FF $22,620.

TP TEACHER/COORDINATOR.

EL COMMUNITY/JUNIOR COLLEGE OR TECHNICAL INSTITUTE (13-14).

PR PRINTED INSTRUCTIONAL MATERIALS.

MJ Auto-Mechanics-Occupation. Interinstitutional-Cooperation. Mobile-Classrooms. Shared-Facilities.

MN Community-Colleges. Comprehensive-Programs. Cost-Effectiveness. Curriculum-Development. Field-Check. Handicapped. Inservice-Education. On-the-Job-Training. Retraining. Sex-Fairness. Shared-Services. Unemployed.

ID *Transmissions (Automotive). State. Proposal.

FF CURRICULUM.

AB To supply comprehensive automatic transmission instruction to enhance existing auto mechanics programs at three community colleges, an existing mobile unit and additional equipment including transmission tester, engine, and related components will be shared among the three institutions. Following the pilot testing of the equipment on the Olympia Technical Community College campus, a schedule of equipment use for Lower Columbia, Grays Harbor, and Olympia Technical community colleges will be developed to include a minimum of one quarter of use per campus for each school year. Additionally, opportunities for specialist instruction will be provided to populations including apprentices, employed mechanics, out-of-school youth, handicapped individuals, adults unemployed or changing jobs, and women with mechanical aptitude. An upgraded and expanded curriculum and materials will be developed. Cost effectiveness of the program will be improved through cooperative sharing. An evaluation report will be delivered.

10

AN 001295. 8203.

PS 132.

FY 1978.

ST Tennessee.

PI TN7813204.

NO CN: E77-90.

TI Systematic Approach to Vocational Evaluation (SAVE).

ON Metropolitan Nashville Public Schools
Nashville, TN.

OT Local Education Agency.

SA Tennessee State Dept. of Education, Nashville.

DT Start Date 01 Jan 78; End Date 30 Sep 78.

FF $5,130.

TP TEACHER/COORDINATOR.

EL HIGH SCHOOL (10-12).

PR CAREER/VOCATIONAL COUNSELING.

MJ Career-Choice. Handicapped-Students. Mobile-Educational-Services. Student-Evaluation. Vocational-Counseling.

MN Employment-Opportunities. Guidance-Programs. Occupational-Guidance. Student-Ability. Student-Needs. Vocational-Aptitude.

TP STUDENT.
EL HIGH SCHOOL AND POSTSECONDARY (10-14).
PP TRAINING PROGRAM.
MJ Solar-Radiation. Mobile-Laboratories. Experiential-Learning. Demonstration-Centers.
MN Secondary-Education. Instructional-Materials. Job-Experience. Postsecondary-Education.
ID State. Proposal.
PP TECHNOLOGICAL PROBLEMS.
AB A mobile solar demonstration unit will be developed to provide adults, secondary vocational students, and agriculture students with hands-on experience and information about the primary types of solar devices. The unit will be constructed on a trailer and will consist of a full-scale room of construction and insulation. Project staff will incorporate the two most common types of solar heating devices now used (solar air-to-air and solar hydraulic) and a conventional propane heating system into the room. The unit also will provide a solar test bed to duplicate onsite solar operations. The mobility of the unit will allow it to function in the areas of solar configuration studies, portable information and demonstration projects, and security of equipment by storage. A final report will be delivered.

8
AN 000215. 8203.
FS 132.
FY 1979.
ST Tennessee.
PI TN791326.
NO CN: E 78.27.
TI Project SAVE: An Articulated Guidance and Placement Program for Handicapped Youth.
PD Miller, E.C.
ON Metro Nashville Public School
Nashville, TN.
OT Local Education Agency.
SA Tennessee State Dept. of Education, Nashville.
DT Start Date 01 Oct 78; End Date 30 Sep 79.
FF $7,940 (Charged to FY 1978).
TP STUDENT.
EL HIGH SCHOOL (10-12).
PP CAREER/VOCATIONAL COUNSELING.
MJ Handicapped-Students. Student-Testing. Student-Placement. Mobile-Educational-Services.
MN Secondary-Education. Job-Placement.
ID State. Proposal.
PP HANDICAPPED.
AB One hundred handicapped students entering the VAP program in the ninth or tenth grade will be tested to determine areas of vocational strengths and weaknesses; the information will be used to place VAP students in the regular vocational program and for job placements. Parttime testers will conduct the SAVE evaluation in a mobile vocational evaluation center and will develop reports for teacher use based on the tests. A manual describing procedures will be included in a final report.

9
AN 001346. 8203.
FS 132.
FY 1978.

AB The mobile foundry laboratory (MFL) developed in the first year will be placed in service for two weeks at each of fifteen selected schools and evaluated. A descriptive brochure will be developed and teachers from selected districts will participate in a three-day workshop. Fifteen additional districts will be identified for possible participation during the third year, depending on funding. The MFL will increase career awareness and employability of urban and rural industrial arts students in east Texas.

6

AN 003174. 8203.
FS 132.
FY 1981.
ST Massachusetts.
FI MA8113224.
NO CN: 405-081-81-0801-3.
TI Mobile Occupational and Vocation Exploratory Program (MOVE).
PD Tobin, David J.
ON Assabet Valley Vocational-Technical School
   Fitchburg Street, Marlborough, MA 01752.
OT Local Education Agency.
SA Massachusetts State Dept. of Education, Boston.
DT Start Date 01 Oct 80; End Date 30 Sep 81.
FF $55,407.
DN Funding for this project is charged to FY 1980.
TP STUDENT.
EL HIGH SCHOOL (10-12).
PR TRAINING PROGRAM.
MJ Career Exploration. Disabilities. Mobile-Educational-Services. Work-Experience-Programs.
MN School-Business-Relationship. Secondary-Education.
ID State. Proposal.
FF HANDICAPPED.
AB The Mobile Occupational and Vocational Exploration Program will provide vocational training to seventy-two handicapped students in six area high schools. Vocational and special education will be provided at each school with specialized training in community worksites throughout the school year. Students will receive training in foods, painting, decorating, home repair, and electrical and electronic repair. Three local and one central advisory boards composed of parents, students, school personnel, worksite sponsors, and community representatives will monitor the project.

7

AN [illegible]694. 8203.
FS 132.
FY 1981.
ST Missouri.
FI MO8113203.
NO CN: 81-131/132-600-7 (A).
TI Mobile Solar Demonstration Project.
PD Adler, Del
   PHONE: (314) 897-3603.
ON Linn Technical College
   Linn, MO 65051.
OT Community/Junior College or Technical Institute.
SA Missouri State Dept. of Elementary and Secondary Education, Jefferson City.
DT Start Date 01 Jul 80; End Date 30 Jun 81.
FF $15,000.

TI Delivery of a Foundry Production Curriculum to Urban Centers in Texas through a Mobile Foundry Laboratory.
PD Boone, James L., Jr.
ON Texas A&M University, Department of Industrial Education College Station, TX 77843.
OT College University.
SA Texas Education Agency, Austin.
DT Start Date 01 Jul 81; End Date 30 Jun 82.
FF $42.172.
TP TEACHER/COORDINATOR.
EL HIGH SCHOOL (10-12).
PR TRAINING PROGRAM.
MJ Career-Exploration. Foundries. Industrial-Arts. Inservice-Teacher-Education. Mobile-Laboratories. Urban-Education.
MN Cost-Effectiveness. Demonstration-Programs. Feasibility-Studies. Industrial-Arts-Teachers. Program-Effectiveness. Secondary-Education.
ID State. Proposal.
PF CAREER DEVELOPMENT.
AB Industrial arts students in urban schools will be provided with hands-on experience in foundry techniques and will increase their knowledge and attitudes about foundry-related careers. The mobile laboratory's practibility and cost effectiveness will be demonstrated, and development and operation of other mobile laboratories will be stimulated. One industrial arts teacher from each of the sixteen participating schools in one or two large urban school districts will attend a workshop on using a mobile laboratory. Ten days of foundry instruction using the mobile laboratory and an instructional package supplied will be provided. Nonparticipating industrial arts teachers will be given eight hours of inservice training in the mobile laboratory. The ten-day student instructional program and the teacher inservice training program will be evaluated to determine the mobile laboratory's impact and effectiveness.

5
AN 003274. 8203.
FS 132.
FY 1981.
ST Texas.
FI TX8113228.
NO CN: 11230042.
TI Delivery of a Foundry Production Curriculum to Rural School Districts in East Texas through a Mobile Foundry Laboratory (Continuation).
PD Boone, James L., Jr.
PHONE: (713) 845-3016.
ON Department of Industrial Education, Texas A&M University College Station, TX 77843.
OT College/University.
SA Texas Education Agency, Austin.
DT Start Date 01 Jul 80; End Date 30 Jun 81.
FF $49.815.
TP TEACHER COORDINATOR.
EL HIGH SCHOOL (10-12).
PR TRAINING PROGRAM.
MJ Foundries. Industrial-Arts. Mobile-Laboratories. Rural-Education.
MN Career-Awareness. Inservice-Teacher-Education. Secondary-Education.
ID State. Proposal.
PF RURAL EDUCATION.

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ON Highline Community College
   Midway, WA 98032.
OT Community/Junior College or Technical Institute.
SA Washington State Commission for Vocational Education, Olympia.
DT Start Date 30 Dec 82: End Date 30 Dec 83.
FF $2,400.
TP TEACHER/COORDINATOR.
EL COMMUNITY/JUNIOR COLLEGE OR TECHNICAL INSTITUTE (13-14).
PR PRINTED INSTRUCTIONAL MATERIALS.
MJ Feasibility-Studies.  Instructional-Materials.  Machinists.
   Material-Development.  Mobile-Educational-Services.
   Numerical-Control.
MN Community-Colleges.  Curriculum-Development.
   Postsecondary-Education.
ID State.  Proposal.
PF CURRICULUM.
AB Relevant literature and curriculum will be reviewed, and educational
   institutions using or interested in using CNC instruction will be
   surveyed for preparation of a rough draft of curriculum.  The draft
   will be reviewed by participating machine shop instructors and
   presented to the Washington Association of Machine Shop Instructors.
   Curriculum guidelines and materials then will be finalized.
   Additionally, the feasibility of using mobile CNC equipment will be
   determined.

       3
AN 008934. 8207.
FS 132.
FY 1982.
ST Missouri.
FI MO8213130.
NO CN: 81 131 132-600-7(A).
TI Dissemination of a Mobile Solar Demonstration Project (Continuation).
PD Simmonds, James F.
   PHONE: (314) 897-3603.
ON Linn Technical College
   Linn, MO 65051.
OT Community/Junior College or Technical Institute.
SA Missouri State Dept. of Elementary and Secondary Education,
   Jefferson City.
DT Start Date 01 Jul 81: End Date 30 Jun 82.
FF $3,000.
TP PARENT/COMMUNITY REPRESENTATIVE.
EL NONE OF THESE.
PR INFORMATION SYSTEMS.
MJ Information-Dissemination.  Mobile-Laboratories.  Solar-Radiation.
ID State.  Proposal.
PF DISSEMINATION OF INFORMATION AND/OR PRODUCTS.
AB The mobile solar unit will be demonstrated to 4 high schools, 4
   agricultural groups, and 3,000 members of the general public through
   a liaison with an existing energy-related state or federal agency.
   Three articles will be published.  A final report will be delivered.

       4
AN 006101. 8207.
FS 132.
FY 1982.
ST Texas.
FI TX8213203.
NO CN: 2240029.
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    used with the MFL will also be developed.  In the spring of 1980,
    selected rural school districts will be invited to Texas A&M
    University for an introductory presentation of the MFL and the
    curriculum.  During the next academic year school districts will
    apply for participation.  Teacher preparation and curriculum
    implementation will occur during the next two academic years.  This
    project will serve as a model of service, and curriculum delivery to
    rural areas as well as a model of education/industry cooperation in
    addressing mutual needs.

END OF DOCUMENTS IN LIST
BRS SEARCH MODE - ENTER QUERY
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Mobile classrooms bring vocational education to rural America

by **E. C. BURNETT**
Director for Special Programs
Crowley's Ridge Vocational & Technical School
Forest City, Arkansas

In the past two years a new concept in mobile occupational education has taken to the back roads of rural America The demand for career education is on the rise. But more than 50 percent of our nation's schools do not offer career courses They can't afford the facilities and equipment for vocational training, and they can't or shouldn't transport students to facilities where this equipment is available. A solution to this problem which is currently being tried in several parts of the country is to mobilize the facilities so that several schools can share equipment.

In August of 1970, the Disadvantaged and Handicapped Section of the Arkansas State Department of Education assigned a fully equipped mobile machine shop training unit to the Crowley's

Although Arkansas mobile units are still in the experimental stage, they have inspired other units in other states throughout the country.

ARKANSAS DEPARTMENT OF EDUCATION
MACHINE SHOP TRAINING UNIT

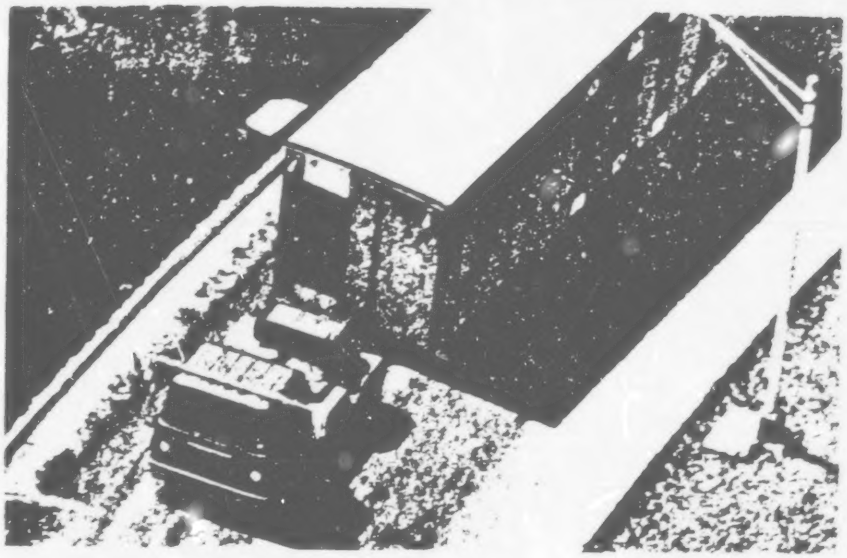
Ridge Vocational and Technical School in Forrest City, a school which serves a five county area. The unit was placed in this Eastern Arkansas Community because it is a heavily populated farming area where mechanization has displaced hundreds of working people, the unemployment rate is high and many people are forced into the job market without a saleable skill.

As a mobile prototype for many later vocational facilities, the machine shop is housed in a 12 ft by 60 ft, four axle trailer which from without may look somewhat like a mobile home. However the similarities stop there. Built and equipped by Educational Programs and Equipment Corporation of Little Rock, the chassis is constructed of ten inch I beams and weighs in excess of two and one half tons. The sides and top of the trailer are made of truss construction with plywood walls glued and stapled to every 2 x 4 in. stud and then covered with exterior aluminum siding. Normal mobile home construction will not stand up to the stresses and strains placed on a facility by education and the operation of light machinery.

The machine shop is equipped with ten lathes, ten milling machines, one numerical controlled unit, twenty student desks, blackboard and slide projection equipment. The mobile unit is a self-contained heated and air-conditioned classroom. Only toilet facilities and electricity are needed for its operation.

More than seventy-five percent of the public school districts in the area that Crowley's Ridge serves and many more beyond their area asked for the services of this first machine shop. A counselor-coordinator was added to the school's staff to work with the disadvantaged and handicapped population, and to schedule the travels of the mobile machine shop. A certified instructor was employed to remain with the unit teaching an exploratory course to high school students and machine shop skills to adults. The mobile unit remains on the campus of each participating high school for six weeks during which not less than sixty juniors and seniors are enrolled for thirty to sixty hours of instruction. The trailer has working stations for 28 students in each class. In the evening, adult classes are scheduled for those interested in up-grading their saleable skills.

(Continued)



Independent trucking companies are contracted to move the mobile classrooms from one school to another.

From K thru 12, the demand for vocational and career education is on the rise.

From September 1970 through May 1972, 897 students were enrolled in courses in this one relocatable school facility. From June 5 through June 9, 1972 the mobile unit moved 151 miles from its base of operations for use as part of an in-service training program for high school vocational instructors from all over the state of Arkansas.

While the mobile vocational facility is still considered to be in the experimental stage, the Arkansas Department of Education this past September placed four more units in four very rural school districts. The new units include a second machine shop, an electronics shop, a building trades shop and an air conditioning and refrigeration shop, each with 720 sq ft of floor space.

The four new units rotate once every 18 weeks among the communities of West Fork and Prairie Grove in the Ozark Mountains and Charleston and Paris in the Arkansas valley. Each of these school systems have fewer than 1500 students in grades one through twelve.

At the end of each 18 week term, the Department of Education contracts with a trucking firm to rotate the class rooms. They can be moved and prepared for the next class within 24 hours. In the foreseeable future it is hoped that any number of schools may each acquire one mobile unit for a particular vocational skill which they will then share with other geographically compatible schools in a round robin schedule. Each mobile teaching trailer including equipment has a turn key cost of about $30,000., a price which if it permits a school to teach several career skills, has a cost/benefit ratio far superior to conventional construction.

The success of the Crowley's Ridge machine shop has sparked many other pilot projects throughout the country. Mobile units are now in use for teaching food store operations in Ft. Lauderdale, Fla. and health operations in Apalachicola, Fla. The State Department of Education in South Carolina solved a pressing need for expanded curriculum in graphic arts and in industrial sewing with mobile units. In Kentucky, the Louisville school system is using a mobile unit for testing and evaluating students, while in Shelbyville two units are used by the Job Corp Center to teach woodworking, welding and automotive repair skills. Four units are in use in the Kansas City, Missouri Public Schools teaching waitress and bus boy skills, maintenance and repair, electrical repairs, and domestic sewing. And San Diego, California recently expanded their career education courses in the remote areas of the county with mobile units to teach health occupations, distributive education, small engine repairs, auto mechanics, graphic communications and appliance repairs.

With the costs of education increasing while revenues remain constant or lag behind, mobility may be the only way we will meet a demand for career education which seems to loom larger each day. With average delivery times of two or three months they at least outstrip cost increases during construction ●

Inside one of Connecticut's classrooms on wheels, reading students learn sound of consonants. In another, adults study auto repairs.

SCHOOLROOMS ON THE GO

By GAYNOR PEARSON

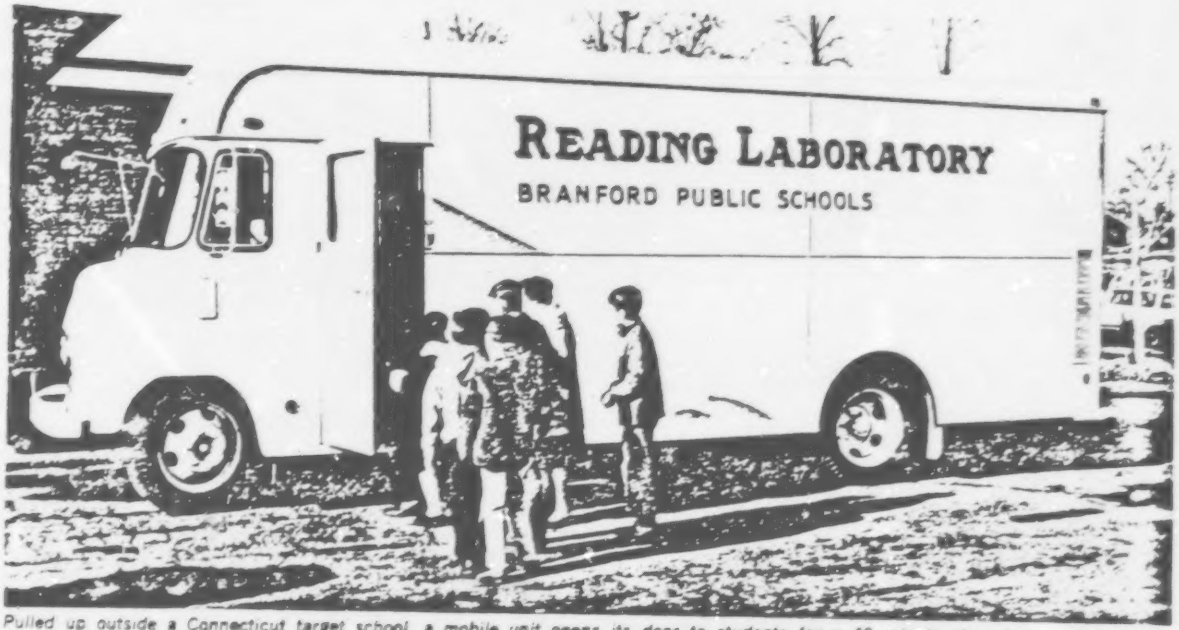
Connecticut's last old-style one-room school—the Gaylordsville School near New Milford—went out of business nearly two years ago. But its passing did not mark the demise of the one-roomer in this State. In fact, "little red schoolhouses" of a new breed are cropping up in a number of towns and cities.

These new one-roomers are of two varieties: mobile units which move from school to school and relocatable units which are parked, with wheels jacked up, as stationary additions to schools. Both types come specially equipped for the jobs they perform, whether for teaching reading, science, trade skills, or art. And all add up to a new rationale—a new role—for the one-room school.

It is estimated that there are at least 40 of them. So far as is known, all—with one exception—were purchased and equipped, wholly or in part, with funds provided under title I of the Elementary and Secondary Education Act. The basic aim of title I is to provide extra help for youngsters who have been shortchanged culturally.

The unit which received no title I subsidy is the "Mobile Tune-Up Training Unit, leased and operated by the Connecticut Department of Education from November '67 to November '68 at a cost of $37,000 with funds obtained under the U.S. Manpower Development and Training Act. This unique "auto repair shop on wheels"—a van towed by a pick-up truck—toured the State's 15 vocational-technical schools to offer special instruction in auto motor tune-up maintenance. The two experts manning the unit offered instruction at two levels—an "entry" course for beginners and a "refresher" course for auto mechanics who wanted to update their tune-up skills.

The aim was to train 100 entry and 400 refresher students during the year of operation. According to Edward Shia, coordinator of the program for the department



Pulled up outside a Connecticut target school, a mobile unit opens its door to students for a 40 minute class in remedial reading

of education. 88 percent of the goal was achieved. Most of the graduates found jobs, some are now in business for themselves.

As this is written, the future of the program is uncertain. Last December, the unit was being used to offer tune-up training to inmates of State prisons, with the State paying the teachers' salaries and the contractor donating the use of the unit.

Most of the mobile units now in use are reading laboratories, packed with hardware for correcting reading problems and manned by reading specialists. Branford was the first town in the State with a mobile reading lab. In 1966, with $25,000 in title I funds, Superintendent Rodney E. Wells had the unit designed and equipped to serve seven of the town's elementary public schools and one parochial school.

The miniature classroom houses seven carrels, each with its own headphone-microphone combination, each with a Controlled Reader Jr. and a Flash-X—a device for developing visual memorization. A remote-control system permits seven different reading programs to be conducted simultaneously. Three reading specialists take turns driving the lab to schools, plugging it into an electrical outlet, and teaching slow learners.

Bridgeport recently spent the sum of $44,500 in title I money to buy and equip two auto campers for use as reading labs. Each lab, manned by a reading specialist and two teacher aides, visits four elementary schools in disadvantaged areas each school day. Each lab has two carrels for individual study and some $3,500 in equipment and materials.

Florence E. Sutphin, reading consultant for the Bridgeport schools, becomes excited when she describes the new teaching tools. "They're the answer to the problem of old schools with no space for reading services," she says. "This is the only way we can follow the children who need our help most."

Bridgeport also has a mobile art gallery, the only one in the State. The "Art to You" unit—an 18- by 9-foot display room mounted on a truck chassis—cost $12,000 in title I funds. For 11 months of the year, the mobile gallery visits schools and public centers, with its doors thrown open to young and old alike. On an average, over 200 persons a day come inside to view works of art by Fairfield County artists and by Bridgeport art students. On hand to explain the exhibits is Ronald W. Wilczek, curator and young Buffalo, N.Y., painter.

The mobile art gallery represents the culmination of a longtime dream by John C. Nerreau, Bridgeport's supervisor of art. Operating expenses run about $8,000 a year and are met by State funds.

Norwalk has a different kind of art unit on wheels—an artmobile for spurring artistic creativity among culturally deprived children. It operates during the six-week summer session and carries a wide variety of art supplies. Under the supervision of two art teachers and a teacher aide, about 350 youngsters a day, from ages four to 16, crowd around the unit and join in painting, sculpting, and other artistic activities.

Donald W. Rogers, art department chief, purchased a camper and made an art unit of it with $6,000 in title I money. Funds for operating expenses—about $3,000 a summer—are supplied by title I and State grants.

The impact which the new-style one-room schools can have on children's lives is shown by Meriden's mobile science unit, a combination science lab and planetarium. The $40,600 unit is housed i[illegible]2-foot house trailer w[illegible]ed four times a year i[illegible] elementary schools in deprived neighborhoods. A hired cab tractor does the towing at $25 per move.

The science area was specially designed and equipped according to local specifications. There are no extras. The inventory consists only of the materials and equipment considered essential in a basic science program. The area has five carrels, plus an audiovisual console and a weather station.

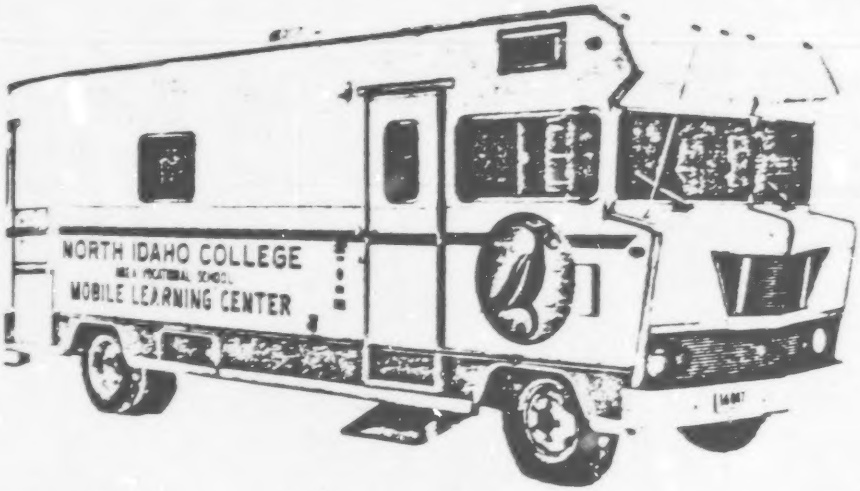
The planetarium seats only 22, but it does the job. Here, as in the science area, the emphasis is on a small-group instruction. Donald W. Fritz, science teacher in charge of the unit, tells of a kindergartner who made his first visit to the planetarium. After only 25 minutes of instruction the boy went home and flabbergasted his father by naming all the stars in the constellation described that day by Mr. Fritz.

In addition to the mobile science unit, Meriden also has two house trailers that have been converted into centers for special instruction in language arts—reading, speech and hearing, and so forth. The trailers are attached to elementary schools where space is short. These relocatable units can be moved, if necessary, but present plans call for leaving them where they are.

Bridgeport has nine trailer-style reading labs stationed at priority schools. Danbury has four and calls them Supplementary Language Arts Centers. Likewise, Ansonia has five of the relocatable "little red schoolhouses" in operation as reading labs, each parked at a target school.

"We could not have offered our tutoring program in our crowded regular facilities," says Ansonia Superintendent Joseph R. Mallard. "The reading labs give us space which is admirably adapted to our purposes. Without them, there would be no program." ■

Mr. Pearson is editor of Connecticut Education, *published by the State Department of Education. His article first appeared in that journal.*



Taking the Show on the Road

by Linda M. Lewis

North Idaho College home economics instructors sit in the driver's seat as vocational home economics adult education takes to the roads in a classroom on wheels. The Mobile Learning Center, a 27-foot motor home equipped with all the necessities for a classroom experience, provides short-term consumer homemaking classes for families of limited or fixed incomes in economically depressed or high-unemployment areas of the five northern Idaho counties.

Funded by the Idaho State Board for Vocational Education, the mobile learning center program is designed to help people help themselves by utilizing all the financial, personal and community resources available to them. The program, in its tenth year, was conceived by Clarence E. Haught, North Idaho College's vocational director, to improve home environments and the quality of family life of adults unable to commute to homemaking education classes offered at the area vocational school in Coeur d'Alene.

Practical Subjects

Talking about improving the quality of life and actually doing something about it are two different things. Each year the mobile learning center provides instruction for 250-300 persons in the general content areas of food and nutrition, clothing management, homemaking skills, budgeting, consumer education and life skills. With two 24 clock-hour classes conducted at various locations for two-week periods, the program is customized to best meet the needs of each region and each target group served.

In the food and nutrition instructional area, for example, farm families might request food preservation technique workshops, senior citizen groups might desire assistance in preparing and freezing make-ahead meals for one or two people, teen-aged parents might enroll in budget meals classes that stress economical and nutritious methods of preparing foods for young children, while Head Start parent groups may wish to participate in a field trip to a local grocery to make name-brand/house-brand/generic-brand food cost comparisons. Such student statements as "My kids now read all the cereal labels, knowing what is best for them and which isn't," or "I spent less money and brought home more groceries than I ever have before," or "Figuring fractions in the recipes helps me figure fractions in my adult basic education class" attest to the program's value.

To get the traveling program on the road, initial contacts are made through social service agency personnel and program brochures placed where low-income persons have access to them. The program coordinator and instructors speak at civic, social, church and agency meetings to create interest and encourage sponsorship for classes. The travel schedule is determined by agency requests, homemaker group interest or instructor inquiries into the needs of people in different localities. The mobile unit's multi-purpose classroom and kitchen accomodates small classes for five to eight adults; however, larger numbers of students may participate in a class if a local grange hall or community meeting room is available.

Checking under the hood is all in a day's work for the author. It wouldn't do to be caught on a lonely road with mechanical trouble. (Photo by Sandy Goodson)

Quick Change Artists

Both the program and the instructors must be flexible to keep groups of homemakers informed as changes and

Alice Bundy, principal mobile unit instru helps developmentally disabled adults a production line for sewing instrument sters for the forestry industry. A number classes are targeted at developing job (Photo by Keri Sylte)

advances in the occupation of homemaking occur. Organization is the key to success; therefore, a wide variety of lesson plans, teaching aids and laboratory supplies must be available at all times if immediate student needs are to be met.

In one instance, an instructor had prepared a laundry procedures lesson and was busy setting up the teaching aids when a student came into the mobile van carrying a large container of cooked beets. Someone had given her the beets the night before; she didn't know how to either can or freeze them so she brought them to class for instructions. The laundry aids were returned to the cupboard, the canner and freezer containers were brought out, and a lesson in food preservation took place that day. The laundry could wait; the beets couldn't.

Although the mobile unit serves as home base for the majority of classes, much instruction involves choices offered in the marketplace. Consumer buying experiences will best transfer to the students' personal lives when they are conducted in realistic settings. Therefore a chain store provides the setting for a wardrobe management lesson, the discount fabric store provides all the learning aids needed for a fabric selection exercise and the thrift outlet proves to be an economical source for obtaining used adult garments to be recycled into children's clothing.

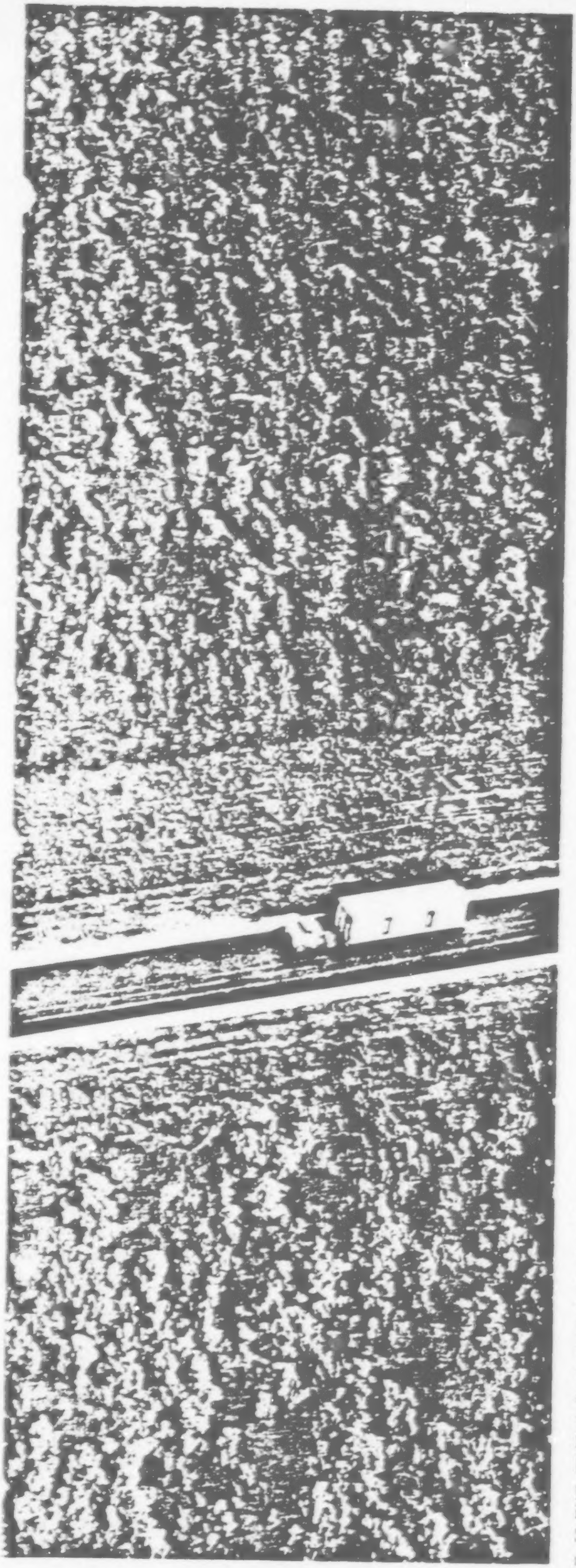
Responsibilities for teaching home economics in a classroom-on-wheels go far beyond those of a regular homemaking teacher in a stationary classroom. In addition to possessing a broad working background in all areas of home economics, mobile learning center instructors must display a keen ability to understand and work with all types of students with a variety of lifestyles and a myriad of personal needs. They must be willing to drive a cumbersome vehicle along seldom traveled roads and must demonstrate the chanical ability to make small rep since they maintain the electrical, sanitary and generator systems of classroom. Mobile instructors must as public relations experts, student cruitment officers and family cour ors.

> "With two 24 clock-hour classes conducted at various locations for two-week periods, the program is customized to best meet the needs of each region and each target group served."

The mobile learning center prog teaches people that their incomes stretch to cover the basic human ne that quality of family life is more im tant than a large bank account, and each individual is a worthy hu being. A written student evalua stated, "I like your classes because get away from the house, meet pe and make friends, yet learn lot things that save me money. I feel worthwhile person again!" That's the North Idaho College mobile le ing center program is all about.

About the author

Linda M. Lewis is coordinator of vocatio home economics at the Area Vocational Technical School of North Idaho College Coeur d'Alene.



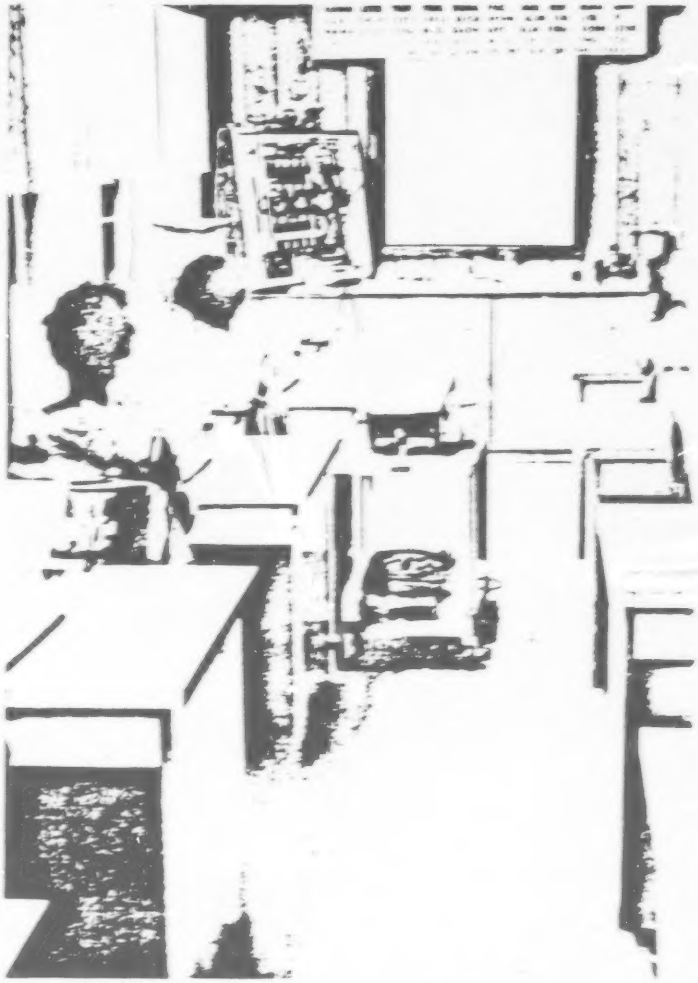
A CARGO OF CAREER EDUCATION

By WALTER WOOD

Over roads through lush farmland rolls the jobmobile with a cargo of career education for the disadvantaged youths on the Eastern Shore of Maryland. The classroom-on-wheels—one of two 40-foot-long trailers equipped for teaching short-term courses in typing, auto tuneup, and merchandising—helps the dropout get back in school, gives the slow learner a chance for better grades, and offers training in marketable skills to the jobless. The van brings to a girl who cannot type 35 words per minute in high school the opportunity to increase her speed and the possibility of landing that job she wants in an urban office. The jobmobile project, designed by the Maryland State Department of Education (MSDE) to demonstrate to local school systems the potential of short-term instructional programs, provides five-week, 50-hour courses at school stops in six of the Shore's nine counties—Caroline, Dorchester, Kent, Somerset, Talbot, and Wicomico. It goes without saying that no moss gathers under a jobmobile. . . .

A-45-b

Migrant families share the jobmobile's educational wares, thanks to thoughtful planning. During summer months when most schools are closed and Somerset County tomatoes are ready for picking, the mobile classroom in typing and auto tuneup is driven to Westover, a crossroads town deep in the fertile tidewater country. At the Westover Elementary School the van joins the program for migrants operated under title I of ESEA. While fathers, and frequently mothers, are bending in the fields under July and August sun, freshly scrubbed children in their neatest clothing are being helped with reading and math skills in air-conditioned comfort incongruous to the steamy hovels of the migrant camp. After the sun goes down, adult and teenager pickers who want to pull away from the migrant stream go into the jobmobile to learn the wiring of an automobile ignition system or how to type without looking at the keys . . . .



Handy wiring boards superimposed with a diagrammatic ignition system of an eight cylinder gasoline engine enable students to perform theoretical tuneups inside the jobmobile before visiting garages to practice actual repairs. Typing students view movies of the typewriter keyboard in action and receive instructions from accompanying sound tapes. Switching from film to practice book, students copy a finger dexterity exercise without looking down at keyboards: *You must allow the queen to pet each of the six zebras.* Day by day the queen pets the zebras a little faster and at the end of five weeks most students are typing more than 30 words per minute. . . .

Jobmobiles still come as a surprise to the Eastern Shore migrant worker who is preoccupied with thoughts of how many baskets of tomatoes he can pick in a day at 20 cents a basket. The career education vans, purchased with funds provided by the U.S. Office of Education under the Vocational Education Amendments of 1968, first appeared on the Eastern Shore only one year ago. The guiding hand of the jobmobile project is that of Charlotte Conaway, a vocational education program specialist of the MSDE in Baltimore.

The concept of packing a classroom securely into a trailer and trucking it to schoolhouse after schoolhouse, mile after mile, is as novel to the Shore's old-line educators as the mechanical crab picker is to the hardshell watermen who thought Fletcher Hanks' hydraulic clam whammer would never make the grade. But it did, becoming the cotton gin of Maryland's clam industry. The jobmobile has as good a chance to achieve equal distinction in the education business. The kingsize vans filled with desks, typewriters, adding machines, cash registers, auto spark plugs, distributor kits, film projectors, and sound equipment rove the quiet byways to train young men and women for possible jobs in department stores, supermarkets, drugstores, service stations, and garages. To understand the impact of all this is to know that some folk say Eastern Shoremen like nothing better than to throw cold water—whether from the Chesapeake or the Choptank—on other Eastern Shoremen's attempts to try something new.

Be that as it may, the jobmobile, like the clam whammer, is showing signs of success. The first big victory came before schools closed for last summer's vacation. Ten students in Princess Anne High School were dropping behind in their typing class. The ten were assigned to take the jobmobile's short course. Earphones on and seated at individual typewriters, the students listened to recorded instructions and picked up the rhythm on their machines. The pace was speeded up gradually, and when the course was completed most of the ten fall-behinds were push-aheads at 35 words per minute. Back to Princess Anne High went the ten to take a final exam. Six passed. Jubilation for the jobmobile and Charlotte Conaway. ■

CHESTERTOWN
DENTON
EASTON
CHURCH CREEK
SALISBURY
PRINCESS ANNE
WESTOVER

A-45-e

MAKING SUMMER INSTRUCTION MEANINGFUL-

-Via Mobile Vo-Ag Classroom

Irving C. Wedeking
Vocational Agriculture Instructor
Aurora, Nebraska

Irving Wedeking

One of the greatest challenges facing the Vocational Agriculture Instructor is maintaining a sound educational summer program. Because of the high degree of technological change in agriculture, it is very difficult for an instructor to maintain an educational summer program by using a car or pickup to make on-farm instructional visits to his students especially during the time of the year when the instructor should be most effective in his teaching. It is felt there are more needs, problems to be solved and the application of formal learning that should be done during the summer months. Also many areas of agriculture can only be partially taught during the school year, because of being out of season, of not being able to use live or growing material, or the normal operations which are completed during the summer months. Some examples are: irrigation well efficiency, crop disease identification, fertilizer management, and livestock improvement.

In this article I will describe the use of a Mobile Education Unit in the Aurora school district to meet the above challenge.

Community Background

The Aurora school district, located seventy-three miles west of Lincoln, includes 516 farm families with an average farm size of 306 acres. The farms are mostly row crop, beef fattening, swine fattening, swine production and beef cow operations. The population of Aurora is 3,180 with most businesses being agriculturally related.

Objectives

The specific objectives planned in this project were:

1. To provide a complete program in Vocational Agriculture by implementing a formal summer education program to fulfill the needs of students enrolled in the supervised experience programs in Vocational Agriculture.

> **The greatest challenge facing the vocational agriculture instructor is maintaining a sound summer educational program.**

2. To provide special entry skill level occupational preparation to those students who are socioeconomically or academically handicapped and place students on-job when skill level is reached.
3. To assist students to make career choices and decisions regarding future educational and occupational plans by using on-location study of occupations.
4. To reduce the unemployment percentage among students of this ability and age level grouping by providing on-location situations and skill entry study during the summer months.

Mobile Classroom Equipment

The mobile classroom started with a stand-by 1958 I.H.C., 42 passenger, school bus. The bus was wired for 110V, carpeted, curtains installed, air conditioning, electric heating, and a 7.5KW, 110-220V power unit was installed.

Educational equipment and materials placed in the Mobile Unit are as follows: four student desks and chairs, filing and storage cabinets, resource material rack, instructor's station, two tape recorders, video-tape camera, recording deck and monitor, wide angle overhead projector, film projector, slide and filmstrip projector, overhead viewing screen, five wireless listening headsets, calculator, two-way business band radio, textbooks and resource materials, student files, 21 Kodak carousels and 16 hours of video tape which have complete lessons, demonstrations, skills, occupational information, etc. for mobile classroom use. All equipment, fixtures, and teaching aids are mounted or stored as to prevent movement or resist shock during road travel.

Mobile Classroom Procedure

The 222 square mile district was divided into 24 teaching areas by using the following criterion: (1) a teaching area is no more than twenty square miles, (2) no student travels more than three miles to Mobile Unit, (3) students in area are grouped by needs, interests and grade level, (4) special needs of students are to be considered on individual basis, (5) eight students will be considered an area. Teaching areas are altered to meet criterion on June 1st of each year.

Use of Mobile Classroom during the school day. Students measuring and calculating field loss on actual location.

Area schedules are sent to the students one month in advance and they are expected, but not required to attend summer instruction. Formal instruction is given from 9 to 11:00 A.M. and from 2 to 4 P.M., four days each week. Ten hours of formal instruction are given to students with special needs each week. Students are given school credit for each ten hours of instruction.

Day School Students

The Mobile Unit is used eight hours

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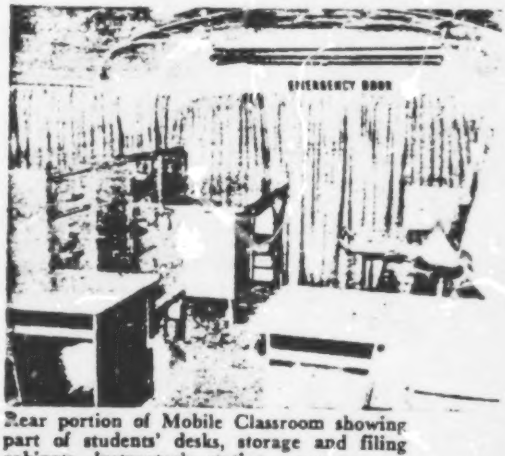

Rear portion of Mobile Classroom showing part of students' desks, storage and filing cabinets, instructor's station, resource materials rack, and equipment storage.

(Wedeking—from page 275)

each week for day school students. Instruction is given to groups or individually in the supervised experience program of Vocational Agriculture.

Young Farmer Education

The Mobile Unit is used ten hours each week on an individual basis, to implement the Nebraska Farm Business Analysis Education and to assist the young farmer in highly technical management decisions.

Testing Program

A five part test of agricultural achievement, developed by the Nebraska Agricultural Education Project, is being used for testing and evaluation of the project. The five part test will evaluate the students' achievement in management, plant and soil science, animal science, mechanics, and a general interest test. The summer program tests have been evaluated and the results are promising. Complete results of the project will be published at the end of the two year testing period.

Two-Way Radio

A business band radio is used between the County Extension Office and the Mobile Unit. The purposes of the radio are: (1) if a student is in need of assistance, he may telephone the County Extension Office and they will relay the message by radio, (If the need is in the same area the Mobile Unit is operating, assistance is given to the student after or before scheduled class sessions are given) (2) if a problem cannot be solved because of lack of information or knowledge, the County Extension Agent is radioed for assistance, (The County Extension Agent can be reached by radio-phone when not in the office and information is then radioed back to the Mobile Unit by the office personnel).

Future Mobile Classroom Use

Research and studies are being made to broaden the use of the Mobile Unit during the school year after the completion of the pilot study. It is hoped that by the 1973-74 school year the unit will be on one-half time for young and adult farmer education, and by the 1974-75 school year one-half time for young and adult farmer education and one-half time for high school students. It is also hoped it may be used for a program to educate drop-out students to a high enough skill level that they may apply for entry-type occupations in agriculture.

Funding

A total of $7,497.00 of exemplary funds will be used during the duration of the project which began on April 1, 1971, and will end on June 30, 1973. A total of $9,190.00 of local funds will be used during the duration of the project.

Summary

During the period from June 1 to September 1, 1971, a total of 217 student contacts were made and a total of 471 mobile classroom hours of instruction was given.

A total of 82 percent of the student enrollment scheduled actually attended the Mobile Classroom Unit.

The learning areas completed during the summer were not structured as complete courses but were planned to complete the practical application aspect of courses studied during the school year. Examples were: (1) crop diseases, (2) insect identification, (3) weed identification, (4) pasture improvement, (5) career opportunities in agriculture, (6) record analysis, (7) irrigation management, (8) livestock management, (9) job placement and skills training, and (10) home improvement.

The instructor devoted 580 hrs of time to this project from June 1 to September 1. Since the mobile unit construction was not begun until April 1, 1971, the resource materials were not as complete as desired on June 1. The needs of the students were much different than the traditional methods of summer education and much time was spent preparing resource materials to fill student needs during the summer. The instructor's time may be reduced during the summer of 1972 but it is felt the high school students, young and adult farmers, will ask for more assistance because of the effectiveness of this Unit filling the needs of agriculturalists in this community. ◆◆

ATEA Journal
Jan-Feb. 1983

EIGHTEEN NEBRASKA COUNTIES COVERED—

Mobile Van Serves as Classroom

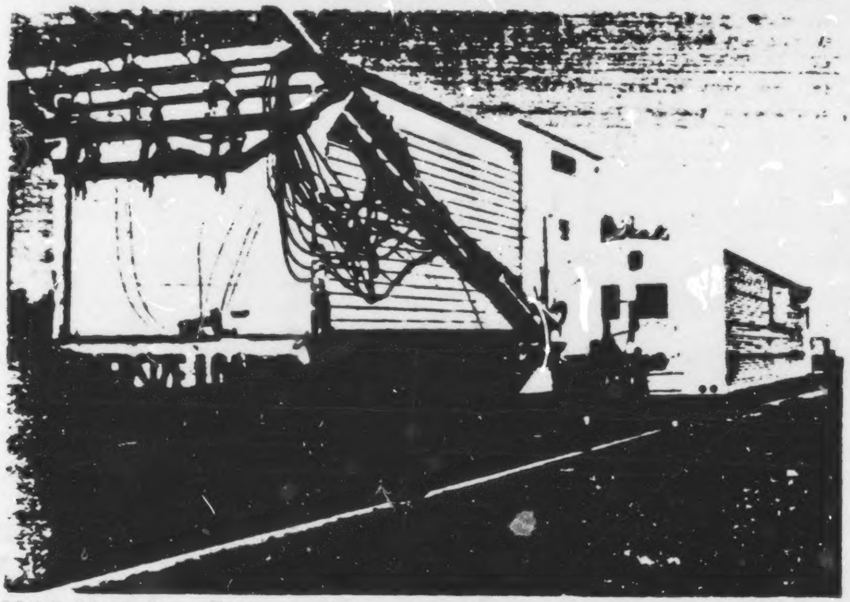
Kenneth L. Aten,
P. Donald Winkler,
Mid-Plains Community College
North Platte, NE 69101

Mid-Plains Community College at North Platte, Nebraska had a dream. It weighed twenty-one tons, rolled on sixteen wheels and brought welding and machine shop instruction to a twenty-thousand square mile service area. The dream began nearly ten years ago and became a reality in March of 1982. Sometimes called a variety of names, this "Mobile Metals Van" was the culmination of many months of inspiration and perspiration by the administrative, instructional and maintenance staff of Mid-Plains Community College with the support of the governing board.

How does a college go about building, equipping and staffing a mobile classroom to serve students in a support area which consists of small, widely separated schools? How does a college provide instruction for high school students and adults in communities unable to justify purchase of expensive equipment? First the van itself had to be found—in this instance that meant to be constructed. Since it had already been determined that a mobile van was the only practical way to service an eighteen-county area. the college tried to find funding. When this was impossible because federal and state funds were nearly nonexistent. plus local budgets had mill levy and percentage limitations, it was decided that if the dream was ever to become a van, it would have to be done the hard way. Consequently, the van was started five years ago using college students to build it, utilzing instructional materials needed to provide practice in welding and fabrication, thus—no labor costs. Many of the material costs were alleviated by the salvaging of practice material that would have been scrapped. Since instruction had to be first priority while working on the van, the unit which might have been built in five months took nearly five years to complete with the college maintenance department putting on the finishing touches and doing that part which was not good instruction. In addition to the Welding department, there were contributions from the Machine Shop, Mechanics, Building Construction, Heating and Air Conditioning and Electrical departments.

Next, equipment had to be found. For nearly ten years equipment had been acculumated that might be used for this project. Much of the equipment was government surplus, used equipment, or existing equipment that could be borrowed from other departments in the college. A total of more than $50,000 worth of machine shop and welding equipment cost the college about $15,000.

Staff was the last big problem. It was decided that since it would be impossible to hire one person to staff this lab on its yearly travels, the next best thing would be to utilize the voc-ag and industrial arts instructors at each of the schools it would visit. Mid-Plains gave a special condensed course for these instructors during the summer to allow them to train with their peers, both on the equipment they would be using in the van and the equipment in the regular welding and machine shops at Mid-Plains. Since the "instructors" came to the course at Mid-Plains with a variety of skills in this area, they were given instruction and "hands on" practice to bring them to a level of proficiency necessary to instruct their high school students and adult vocational metals classes. There was no cost to the instructor except his time. Housing was provided in college housing if the instructor desired.



Mobile Metals Van with power trailer enroute to an area high school.

Now that the dream is a reality, what is it exactly and how will it be used?

The Mobile Metals Van is 8 feet high, 12 feet wide and 60 feet long, weights twenty-one tons and is supported by a heavy steel frame carried by sixteen wheels on eight axles. Walls and roof are made of light weight steel studs and joists covered with steel siding on the exterior and lined with plywood on the interior. Ceiling, walls and floor are insulated with a combination of fiberglass insulation and sprayed on urethane, both on the roof and floor. The heating and cooling system is a combination of electrical and propane. Usually the electrical system will be sufficient but severe weather may make the propane necessary.

The van is divided into two sections. The front half contains twelve arc welding units. Ten of the welders are 250 amp, AC-DC 60 percent duty cycle, industrial quality welders, four of which are set up with high frequency attachments so that they can be used for TIG welding, welding of aluminum, stainless steel, etc. The other two welders are semi-automatic wire feed MIG. This end of the van has an extensive exhaust system to ventilate the welding fumes.

The second part of the van houses four gas welding units followed by grinders, drill press, power shears and a power horizontal band saw. Also included is a metal shaper, horizontal mill, vertical mill, universal mill and four 10 inch swing x 24 inches to 30 inches bed metal lathes. The machine shop equipment is of industrial quality but of toolroom rather than production size.

This van is self sufficient with the support of a second smaller unit, 8 feet by 8 feet x 28 feet, built to provide its electrical power hook-up. This second unit carries extra supplies for welding and machine shop work as well as equipment and materials for blocking and leveling the Metals Van on location. The main purpose of the support van is to

MOVING?

Don't forget to let the National ATEA Office know your new address.

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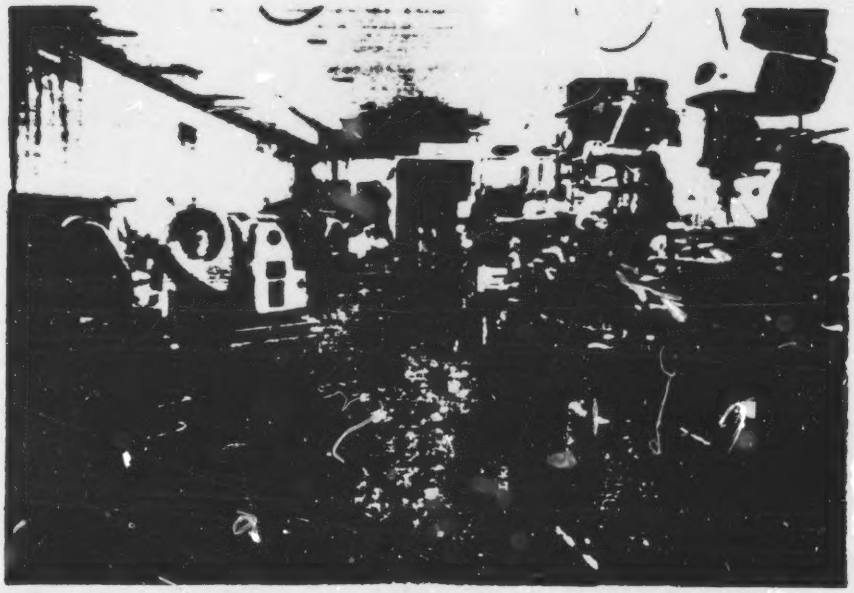


Interior of the 60 foot Van from the machine shop section to the welding section.

provide portable transformers with 28 feet high poles which raise and lower hydraulically. The three transformers enclosed within the support van are a dual primary voltage type. This makes it possible to connect the Mobile Metals Shop to the local high voltage power lines in almost all of the eighteen-county Mid-Plains Community College area. This enable the Metals Van to be disconnected at one location and hooked back up again at another location in the same day at an affordable cost. Both of the tractors which move this equipment were obtained through state educational surplus.

The van and its accompanying trailer are now being utilized to serve an area approximately 125 by 200 miles in west central Nebraska. It will serve (on a rotating schedule) high schools ranging in size from twenty-five to seven hundred students with an average size of one hundred students. A schedule is being arranged with the high schools in this rural area to utilize the van and its equipment about every four years, usually five weeks per visit. This will allow a high school student in ninth through twelfth grades to be exposed once during his high school career to a welding and machine shop program that his school could not otherwise afford. There is no expense to the school except for the supplies, utilities and inventory. The van comes to the school fully equipped and stocked. It is delivered on site, hooked up and ready to utilize. The instructor merely incorporates the instruction into his regular teaching schedule. Classes for adults are offered in the evenings. In this case the instructor becomes an employee of the college in its regular part-time program and is paid by the college.

What are the benefits of a project like this? The students of a very rural area are being given training in welding and machine shop that would not have otherwise been offered. The adults of the area have an opportunity to be introduced to welding and machine shop without having to drive fifty to one hundred and twenty-five miles for evening instruction. The college and the high schools have become more closely connected and can better serve each other. Students are more aware of Mid-Plains College and this can be an excellent recruiting tool. The van will be used to train industry when the schools are not in session.

It will be moved to a public power facility this summer to train their employees in welding and machine shop.

A mobile welding and metals laboratory is indeed proving to be beneficial to Mid-Plains and the area it serves but there is one major problem—one van is not going to be enough.

1983 Exhibitors for National Conference

Dodge/Scan Div. of McGraw-Hill
1221 Avenue of the Americas
New York, New York 10020

ASCI Marketing Group
27439 Holiday Lane Suite #101
Perrysburg, Ohio 43551

Baders Art Supply
1113 Locust Street
St. Louis, Missouri 63101
Electronics Supply Company, Inc.
4100 Main
Kansas City, Missouri 64111

Feedback, Inc.
620 Springfield Avenue
Berkeley Heights, New Jersey 07922

E & L Instruments, Inc.
61 First Street
Derby, Connecticut 06418

Sun Electric Corporation
One Sun Parkway
Crystal Lake, Illinois 60014

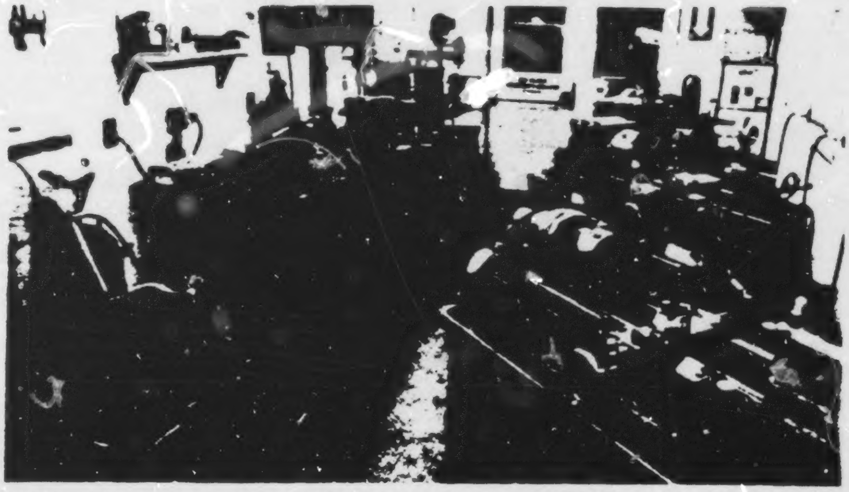
Prentice Hall
College Division
Englewood Cliffs, New Jersey 07632

Bobbs-Merrill Educational Publishing
4300 W. 62nd St.
P.O. Box 7080
Indianapolis, Indiana 46206

Nova University-Center for Higher Ed.
3301 College Avenue
Ft. Lauderdale, Florida 33317

Hocking Technical College
Nelsonville, Ohio 45764

Dependable Educational Programs Co.
Route 5, Box 136
Pittsburg, Kansas 66762



Machine shop section of Mobile Van showing lathes, milling machines, shaper, metal shear.

The van's rear section houses four gas welding units, grinders, a drill press, power shears, and a power horizontal band saw. We also included a metal shaper, horizontal mill, vertical mill, universal mill, and four 10" swing × 24" to 30" metal lathes. The machine shop equipment is industrial quality but of toolroom, rather than production, size.

A smaller second unit, 8′ × 8′ × 28′, provides electrical power hookup, carries extra supplies for welding and machine shop work, and contains equipment and materials for blocking and leveling the metals van on location. The support van's main function is to provide portable transformers with 28′ high poles which raise and lower hydraulically. The three transformers inside the support van are a dual primary voltage type, making it possible to connect the mobile metals shop to local high-voltage power lines in most of the college's service area. The metals van can be disconnected at one location and hooked up again at another in the same day at an affordable cost.

We obtained the two tractors from state educational surplus to transport this equipment.

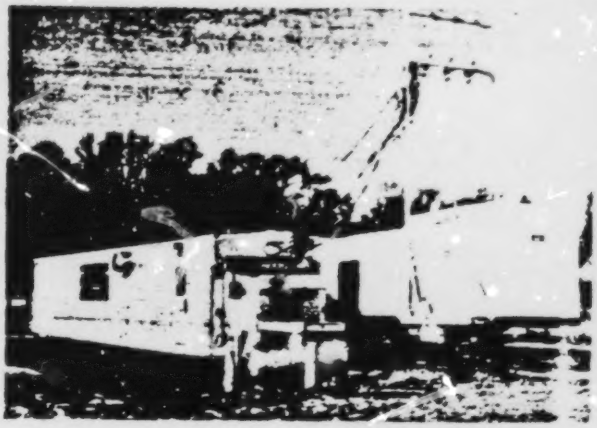
The population served. The van and support trailer now serve an area approximately 125 miles × 200 miles in west-central Nebraska. They visit, on a rotating schedule, high schools ranging from 25 to 700 students, with an average enrollment of 100.

We schedule rural high schools for use of the van approximately once every four years, usually for five weeks per visit. This arrangement exposes a student once during high school to a welding and machine shop program that the local school could not otherwise afford.

There is no expense to the school except for supplies, utilities, and inventory. The van comes fully equipped and stocked, hooked up, and ready for instruction. The instructor simply incorporates lessons made possible by the van into the regular teaching schedule. Classes for adults are offered in the evenings, with the local instructor employed and paid by the college through its regular part-time program.

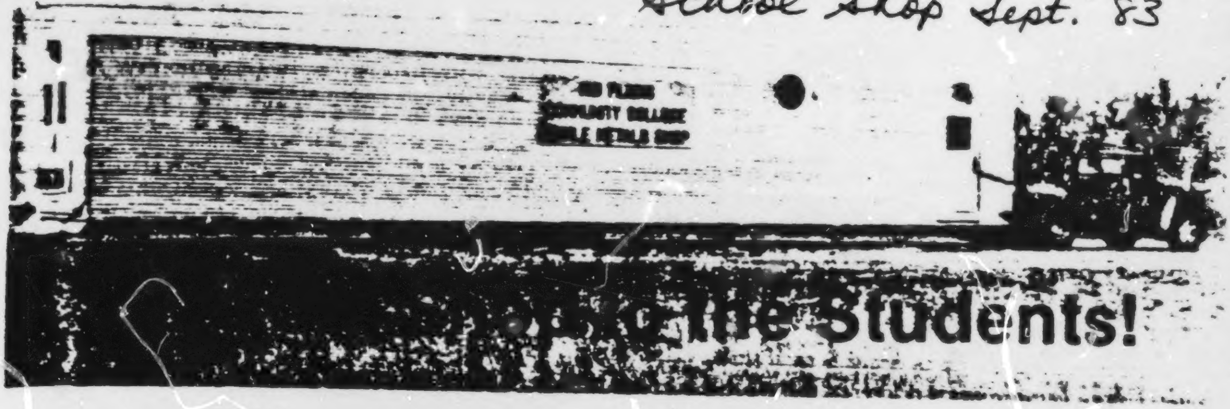
What are the benefits of a project like this? Students in a very rural area receive training they'd not otherwise have. Area adults also have an introduction to welding and machine shop without having to drive 50 to 125 miles for evening instruction. The college and high schools have become more closely connected and can better serve each other. Students have greater awareness of Mid-Plains College, which yields excellent recruiting benefits. We give local industry access to the van for training purposes when the schools are not in session.

Although the mobile laboratory is of benefit to the college and its community, there is one major problem—one van is not enough. ☐



The mobile metals van with its support trailer, set up and connected to power at a rural Nebraska high school

School Shop Sept. '83



[illegible] the Students!

By Kenneth L. Aten and P. Donald Winkler

OUR community college had a dream. It weighed 21 tons, rolled on 16 wheels, and would bring welding and machine shop instruction to students in a 20,000 square-mile service area. In March 1982, after 10 years of work and planning, the mobile metals van became reality, the result of the combined inspiration and perspiration of Mid-Plains Community College students and administrative, instructional, and maintenance staffs.

Building and outfitting the van. The college first sought funding when we realized that a mobile van was the most practical way to service our 18-county area. With federal and state funds nearly nonexistent and mill levy and percentage limitations on local budgets, purchase of a completed van was impossible. Consequently, students built the van, using instructional materials designated for welding and fabrication practice. Labor was free and costs were held down by salvaging material that would otherwise have been scrapped.

Because instruction was our first priority, a unit that might have been built in five months took nearly five years. The college maintenance department put on the finishing touches and performed jobs that weren't of an instructional nature. The welding, machine shop, mechanics, building construction, heating and air conditioning, and electrical departments all contributed to the van's construction.

For nearly 10 years, we collected needed equipment. Much was used or government-surplus equipment or already-purchased items borrowed from other college departments. In the end, more than $50,000 worth of machine shop and welding equipment cost the college about $1[illegible],000.

Staff was our last big problem. Because it was impossible to hire one person to staff the lab, we decided to use the vo-ag and industrial arts instructors at each school we visited. Mid-Plains gave a special condensed course during the summer for these instructors, allowing them to train with their peers both on the van's equipment and in the regular welding and machine shops at Mid-Plains.

Because instructors came to us with varying skills, we provided instruction and hands-on practice that brought them to the proficiency needed to teach their high school and adult vocational metals classes. We charged no tuition and made housing available in the college dormitories.

The completed van is 8′ high × 12′ wide × 60′ long and is supported by a heavy steel frame. Walls and roof are lightweight steel studs and joists covered with steel siding outside and plywood inside. We insulated the ceiling, walls, and floor with a combination of fiberglass and sprayed-on urethane. The heating and cooling system uses electricity supplemented by propane in severe weather.

The van is divided into two sections, the front half containing 12 arc-welding units. Ten are 250 A, ac/dc, 60 percent duty cycle, industrial-quality welders, four of which have high-frequency attachments for use in TIG welding and welding aluminum, stainless steel, and so forth. The other two welders are semiautomatic wire-feed MIG. An extensive exhaust system at this end ventilates welding fumes.

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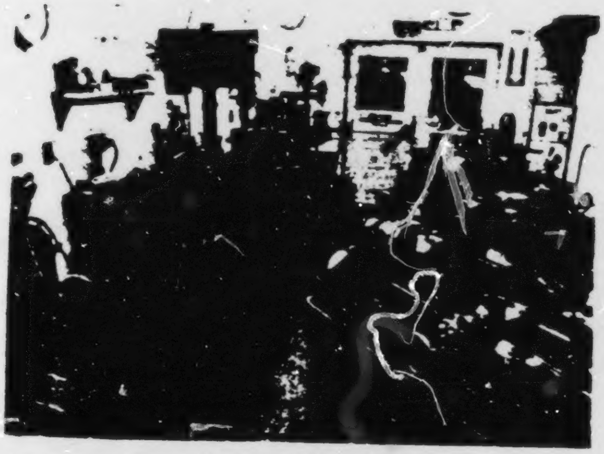
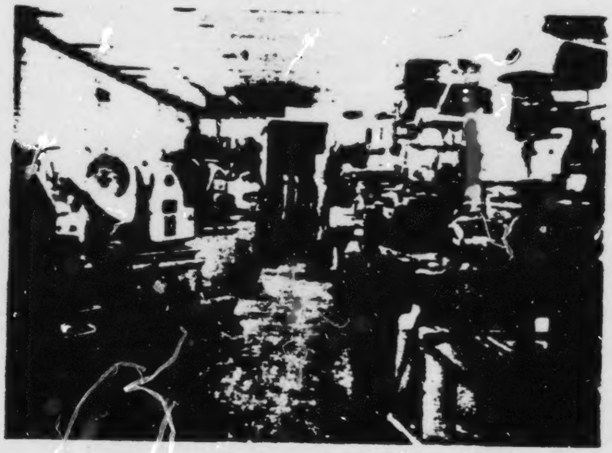
Kenneth L. Aten is president and P. Donald Winkler is director of part-time vocational instruction, Mid-Plains Community College, North Platte, Nebraska.



Part of the interior of the completed van showing some of its machine shop equipment and the double-door entrance/exit



This view shows additional machine shop equipment and, at the end farthest from the camera, the van's welding area.

A-48

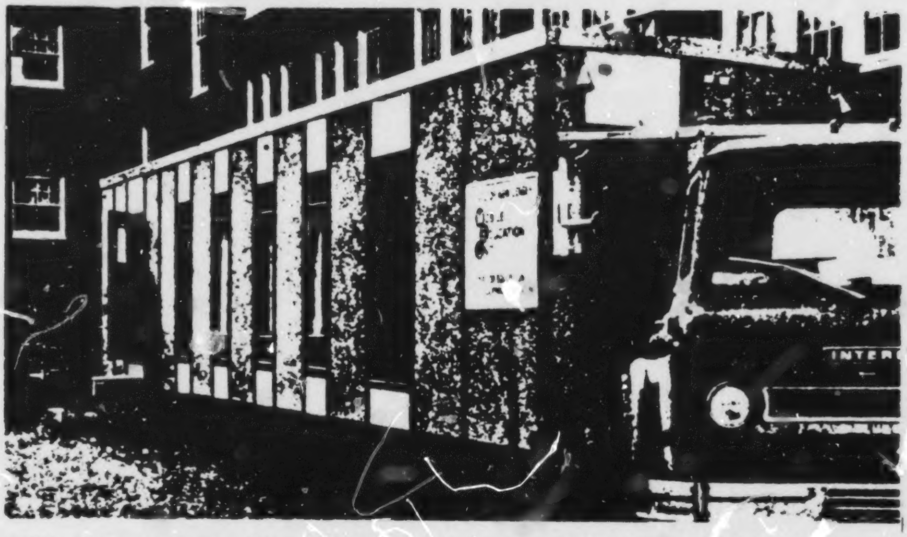
NEW JERSEY CLASSROOMS ON WHEELS

The New Jersey Department of Education recently purchased 12 "classrooms on wheels." These trailers, which are designed to be mobile, relocatable or permanent, are part of an experimental program of "itinerant" vocational education initiated by Dr. Robert Worthington, New Jersey's assistant commissioner for vocational education.

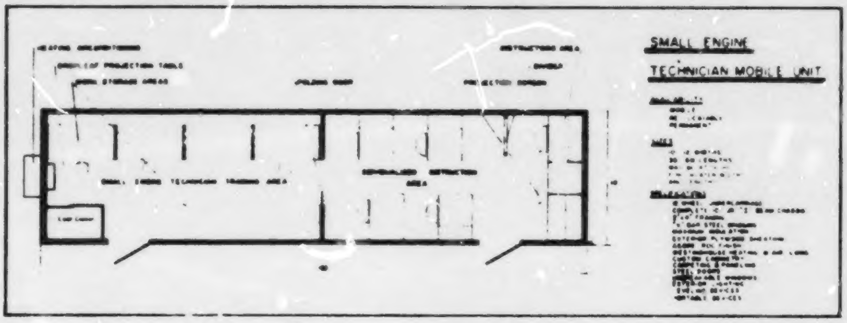
"Itinerant" is a good word for the program although it bears little resemblance to the image of an early traveling preacher, which the name brings to mind. By comparison, the mobile classrooms, built by Intermodular Structures, Inc., are comfortable arrangements for ten students with cabinets loaded with audio-visual equipment for both group and individual self-instruction.

Each trainer is fully instrumented for instruction in automotive tuneup, automotive air conditioning, automotive brake repair, control of automotive exhaust and small engine repair. Each unit is also equipped for teaching clerical work, touch typing, introductory drafting, human relations and graphic arts.

The units, measuring 10 x 60 ft, travel an average of 40 miles between schools about every six weeks. The framing is metal, with 5/8 in. plywood subfloor and underlayment. The wall and roof sheathing is 3/8 in. plywood. Fully equipped, the average cost per unit is about $30,000.



ABOVE. New Jersey's "itinerant" classrooms move on every six weeks.
BELOW. Mounted on an 'I' beam chassis the units withstand constant use.



"Round-Robin" Auto Tune-up Program

Forty-foot traveling shop brings automotive course to 400 New Jersey students and trainees

By HOWARD SMITH
Managing Editor

Mel Hersh is a vocational instructor and he teaches automotive tune-up just about anywhere in New Jersey that has a demand for him. And wherever he goes he carries his classroom with him. To borrow a phrase from the movie, "The King and I," "Is a puzzlement"—until you visit Mel at work.

His classroom is a 10 by 40-ft. trailer which, on the morning of March 5 was parked on the asphalt playground of Memorial Elementary School in Union Beach. The trailer is one of nine which form a unique experimental program of "itinerant" vocational education initiated this past year under Dr. Robert Worthington, New Jersey's assistant commissioner for vocational education.

"Itinerant" is a good word for Hersh's tune-up program although it bears little resemblance to the image the early traveling type preacher brings to mind. By comparison the mobile classroom is luxurious with comfortable arrangements for 10 students and cabinets loaded with audio-visual equipment for both group and individual self-instruction. Formica-topped desks provide ample working space for students working on the training boards, taking notes or working out the lessons in their workbooks.

"Up front" in the trailer is a cardboard and plastic mock-up of an engine run by a small ac motor which simulates the actual ignition system in operation and a benchtop auto engine analyzer—an actual piece of test equipment which can be moved outdoors to tune up an engine. Smaller than some of its "sister" trailers, the tune-up unit was built and outfitted by a New Jersey firm which is developing its original capability in construction of such mobile units as diners and relocatable bank buildings into an educational specialty. They are building and equipping educational units according to the specifications of educators. Cost of the equipped unit runs between $21,000 and $30,000.

Hersh, whose background is in air conditioning, spent three months working with an experienced instructor and is taking special courses to qualify for certification under New Jersey accreditation policy for vocational education. He teaches a schedule of five periods a day with 10 students in each session. In addition he teaches a class of adults two evenings a week. While most are upper grade level students—mostly eighth grade, one group is comprised of eight special students who make up an ungraded class. Some are re-

Before going into "live" tune-up work on the engine analyzer these students learn theory from workbooks. They work on the automotive ignition wiring board and the testing board which simulate actual systems.

Instructor, Melvin Hersh, demonstrates the operating engine simulator to an elementary student. Forty-foot trailer has stations for 10 students. The electronic engine tester, behind instructor, is used out-of-doors to tune up an automobile.

tarded while others have failed to achieve in their regular classes for various reasons.

"It's not that we are trying to make auto mechanics or tune-up specialists out of these grade school students," Hersh explained. "We want to give them exposure to occupations. Some of the special students, young as they are, have quite a bit of mechanical ability and we try to develop this. We have some of them working on the training boards. They learn how to trace the automotive electrical circuit and how different parts can be adjusted.

When they have learned this, Hersh lets them work on the mock-up where they do some experimenting. The distributor cap is transparent so they can see the rotor turning, the opening and closing of the points and the effect this has on ignition. He has them remove the condenser so they can see the difference in the spark. At the same time they can see the difference on the scope of the engine analyzer.

The course which Hersh teaches is purposely unstructured since the program is experimental. However, a great deal of audio-visual equipment and software is used. These include a small engine mechanics training course with film strips, engine tune-up training board, voltmeters, tape recorder, 35mm carousel slide projector, a 16mm sound projector, 35mm slide and record player, and an overhead projector.

The 10 formica-topped desks have vertical storage for the training boards. There is a drawer for workbooks and miscellaneous supplies. Cabinets overhead and between the windows hold audio-visual equipment and software. There is a small teacher's office at the rear with additional storage. Power for heat, light and air-conditioning is provided by an umbilical cord.

Like the other eight mobile training units which include programs of graphic arts, typing, industrial plastics, and small engine mechanics, the tune-up trailer is scheduled to move on to another school after 20 teaching days. This schedule is repeated through mid-June when it will probably be pressed into service for training programs to migrant workers, to inmates of correctional institutions and to students in summer school programs in New Jersey. By that time Hersh will have put in a solid school year completing his 20-day program in eight schools.

There are no actual limits to his travels except the state boundaries. In practice, John Bohner, coordinator of the mobile units, tries to schedule the route within a 35-40 mile radius.

He and John Wyllie, director of the state's Bureau of Special Needs and Cooperative Education are hopeful and enthusiastic over the program. Primary purpose of the mobile units, they feel, is to serve as examples to the various school districts of the types of vocational programs that should become a permanent part of the school's curriculum. A successful 20-hour program in some area of automotive service, industrial plastics, or graphic arts is an effective way to generate permanent programs for the disadvantaged, they reason.

"You can write and you can talk about such programs, but this effect of the actual participation of 50 of his own pupils is more likely to trigger action by the school superintendent," Wyllie explained.

However, neither Wyllie nor Bohner is downgrading the potential of the mobile units for more-or-less permanent vocational programs of short training duration. One of the units has been tried in a jail with encouraging results. "We have in mind detention centers where kids are held for short periods. They're doing nothing but looking at four walls. The units and the equipment can make a difference. We've seen it with our own eyes."

What sort of teacher takes on a mobile unit assignment? According to Bohner, he's got to have a great deal of motivation, resourcefulness and willingness to accept the unusual. Take the idea of moving from place to place. One month he is traveling 10 miles to his classes, the next stop may be 35 or 40.

Self sufficiency is another prized quality. "These are people who may have to change a tire during a moving operation or jockey the unit over bad roads."

Motivation? Take Mel Hersh. "We've trained him to teach automotive tune-up," Bohner continued. "With only a three-month training period with another instructor, we feel very comfortable in putting him out on his own. . . . Higher priority than normal is placed on the adaptability, personality, and attitude of the person toward the program."

Funding for the program came from state and federal money for the disadvantaged, part of the VEA '63 and '68 monies. It is possible that after assessing the results of the nine units, additional trailers will be purchased to expand the program. There are no patterns as yet. But one thing appears certain in New Jersey. Men are hard at work to provide relevant vocational education for *all* in a way they can assimilate and use to best advantage.

For the present, the architects of the program are content with a quiet optimism. The real measure of the program may well be in small success. Hersh talked of one of them: "I was in South Plainfield with my unit and I had a boy who couldn't read. But he did surprisingly well in the tune-up course. He had a job with Sears and Roebuck just changing tires. Doing a good job too. Now he has a new skill. He may never be an ace mechanic but he can qualify for a job setting up new cars for delivery or he can do automotive servicing in a filling station. He's happy and Sears is happy with him."

Where regular education has failed, who can argue with that kind of success?■

BUSES TAKE TECHNICAL TRAINING TO STUDENTS IN RURAL SCHOOLS

Each day Harry Chase holds a three-hour electricity and electronics class at Mosquero, N. Mex., High School. After lunch he drives his classroom (a reconditioned military ambulance bus) 19 miles to Roy High School for another three-hour session in the afternoon.

Halbert Slagle drives a 59-mile technical-vocational route in Arizona. Frank Bettis, another New Mexico teacher, travels 86 miles a day to bring basic instruction in electricity and electronics to three classes of 12 students each in 3 different rural schools.

All these teachers are part of an experiment to make equal vocational education opportunities available to students in rural schools. Long lagging behind because of the expensive shop facilities needed (as well as qualified teachers), many small school districts are turning to shared facilities to put their vo-ed programs on a par with city schools.

The New Mexico programs were brought into being by three cooperating groups. The Educational Service Center, a project funded under the Elementary and Secondary Education Act of 1965, owns the buses and installed the equipment. The New Mexico Department of Education underwrites the teachers' salaries and operating expenses. Participating schools supply educational materials and training equipment.

Not only have the buses expanded vo-ed for students, plans are being made to use them for teacher training. Traveling around the state, they

bove: *Jack Boulton (in foreground) of*
e State Department of Education confers
ith Frank Bettis (center), teacher, and Ed
angman, manpower consultant. In back-
ound, Lee Palmer, State Department of
ducation, talks with William Allen of Simp-
n Educational Systems. **Above-right:** *Harry*
hase (center) lectures on theory and super-
ses laboratory activities as well as taking
re of incidental duties of driving his
lassroom" between the Mosquero and Roy
gh Schools. **Right:** *Project boards, securely*
ounted in overhead racks, give the student
actical experience in circuit operation. The
structor's demonstrator makes lessons
sily visible to each student.

The buses plug in to the electrical utilities at each school they serve. Heat is provided by electrical space heaters on this bus. Promises of jobs for graduates have shown that local businessmen are interested in the success of this program.

MOSQUERO · ROY VOCATIONAL ELECTRONICS LAB

would be used for a series of two-week workshops to update knowledge and help teachers implement electricity-electronic programs in their own schools.

The mobile classroom uses courses in both English and Spanish by Simpson Educational Systems. The standardized tests which are part of the system help insure that the students are competitive with those of urban schools.

Another type of mobile classroom with the same SES equipment and materials will be used for a 12-week time block at each of three junior high schools. This classroom will be installed in a 41-foot semi-trailer and will easily accommodate a class of 24 students, instead of the 12 handled in the buses. The trailer unit will be used to teach drafting and electricity, using the same four-student work station tables for both classes. The three districts undertaking this project will be within 20 miles of the teacher home base.

Ed Tangman of the Educational Service Center of Albuquerque, N. Mex., headed the development of the Moriarity, Estancia, Mountainair pilot program. M. G. Hunt, director of the New Mexico State Department of Education, and Lee Palmer, supervisor of the Trade and Industrial Division, played key roles in the Roy-Mosquero program. William Allen, SES's New Mexico and Arizona representative, worked on equipment design to fit the limited space.

The Arizona program was sparked by J. R. Cullison, state director of vocational education. Marvin Seglem, T & I supervisor, Theo Beach, Yuma County technical vocational co-ordinator, and William J. Anderson, supervisor of industrial arts, worked out the many difficult problems of bringing a technical subject to secondary school students who live in small districts.

A-51-b

Workshops on Wheels Bring Training to the Day Care Door

by Pamela Mauk and Patrick L. Gogerty

Photos: Seattle Day Nursery

seattle
association

We are a nation ever more dependent on child care providers to oversee our children's growth. The percentage of single-parent families and households in which both parents work have risen dramatically in the last decade, resulting in increased demand for child care facilities. Unfortunately, programs to train and equip day care providers have not increased as rapidly. As a result, many caregivers have had no special training and lack the resources to provide positive, developmentally-oriented programs for youngsters.

In the Seattle, Washington, metropolitan area, where 14,000 children under age six have working mothers, Seattle Day Nursery—a United Way agency—has tackled this problem by bringing training literally to the doors of day care providers. Since 1976, through the agency's Early Education Mobile Resource Program, vans piloted by education specialists have been visiting caregivers in the city and surrounding suburban and rural areas, providing specialized training and support services to enhance caregivers' skills.

Beginning with one van in the inner city the program has expanded to

Gail Haynes, a Mobile Resource Unit staff member, works with a child in a family day care provider's home.

Pamela Mauk, formerly with Seattle Day Nursery, Seattle, Wash., is staff assistant for development and public relations for the Ryther Child Center, Seattle. Patrick L. Gogerty is director of Seattle Day Nursery.

Photo. Seattle Day Nursery

Above: Inside the van, MRU coordinator Margo Siegenthaler (right) shows a caregiver some of the items that can be borrowed. Opposite: Staff member Wayne Reinhardt discusses the program with a visitor from South Africa.

Photo: Tom Brownell, Seattle Post-Intelligencer

three vans visiting three counties. To date, 350 homes and centers have received training and resources, and about 85 day care homes and nine centers are added each year.

The workshops on wheels disseminate information, provide educational materials, books and art supplies and act as a liaison between Seattle Day Nursery and the wider child care community. The day care providers spend an hour and 15 minutes twice a month with a resource specialist while the children under their care are supervised by a mobile van assistant.

Accessibility is the program's most distinctive characteristic. Lack of child care training results most often from provider isolation, particularly in rural areas where transportation problems are common. In addition, day care providers often work a 10- to 12-hour day, leaving them little time or energy for taking classes at night. The van's mobility counters the caregiver's isolation—and both providers and children say they like the break in the daily routine. One caregiver calls it "an outrageous program. . .the kids always look forward to van days. They love the things they do." Another provider looks forward to the van's visit because it delivers "emotional support and advice, the chance to freely discuss everything with someone who really cares about children. This enables me to provide better care."

The Training Program

Training for workers in day care centers is accomplished through biweekly workshops while for family day care home providers, one-to-one consultation is used.

The program for family day care providers follows a 20-session curriculum. Each 75-minute session includes four elements: discussion of the caregiver's concerns and a topic of the day presented by the trainer (the time spent for each segment varies, depending on the caregiver's needs); discussion of a specific activity (5 to 10 minutes); selection from the van's toys and resource materials for use in the day care home (15 minutes); and modeling of skills by the specialist (10 minutes).

The van assistant first takes charge of the children, reading to them or telling a story, singing songs, conducting art activities or playing active games. Relieved of her duties, the caregiver meets in the van with the

Photo: Seattle Day Nursery

Staff member Beverly Forsythe involves children in a building activity in a caregiver's home.

resource specialist. There, in a comfortable, quiet environment, the caregiver raises specific concerns—about a particular child or parent, for example, or about an activity that did not work.

These conversations provide a "great sounding board, helping me to get a better perspective on my job," explains one caregiver. Another mentioned her delight at having an opportunity to "air problems with a caring professional." Problems discussed range from the mundane to the serious: A provider may complain that a child only eats peanut butter sandwiches, or she may raise her suspicions that a child has been abused.

Caregivers' questions often involve child development: Is this child normal? Why is she different? Answers to broader concerns about children are not delivered prepackaged. Rather, over a year's time, a problem-solving approach is stressed.

This emphasis recognizes that there are many ways to handle child care problems. A great benefit of a program which meets 20 times is that a variety of methods can be tested and the results analyzed. The one-to-one instruction also enables providers to receive positive feedback. And since the training takes place at the day care home itself, methods can be immediately adapted for specific situations.

The specialist may also refer the provider to a variety of resources—such as medical, legal and recreational organizations—in the community. Or the caregiver might ask the specialist to meet with parents or to arrange story hours and special classes. For example, one mother was having problems raising her two boys. "My oldest boy is advanced for his age," she noted, "and it's hard to get him interested in most activities that others in his age group enjoy." The specialist helped him to enroll in a class on model rocketry at the Seattle Science Center, and his behavior improved markedly.

A variety of child care issues are also addressed when the specialist and provider focus on the prearranged discussion topic for the session. Although the Mobile Resource Program (MRP) has developed an outline of suggested topics, the curriculum is planned for individual instruction, based on each provider's needs, since the caregivers' skills, the type of home and the ages of the children served vary greatly. The specialist gives the provider printed information on the topics, which include guidance and discipline, relationships with parents, activities for children, health and safety practices, child growth and development, working with children with special needs, behavior problems, nutrition, recordkeeping and other business practices.

Most of these printed handouts are derived from magazine articles; many are written by MRP specialists and some are reprinted with permission from standard texts. They are regularly supplemented and revised by staff members. The materials are considered a resource to which providers may turn to plan their own curriculum. By the end of the course, the providers have accumulated a reference library of some 350 pages.

After the discussion period, the specialist teaches a specific activity involving science, music, numbers or making toys from "throw-away" items. Language development and systems of classification are emphasized and the objective of each activity clearly identified.

The time spent in selecting toys and resources from the van is a popular part of the program, particularly among those new to day care. Providers may borrow audio-visual equipment, easels, balance beams, puzzles and a host of toys. Caregivers often lack funds or storage space, and some may also lack experience in purchasing toys and educational equipment. One provider had given up buying anything because "all the little pieces get lost or broken." A loan from the Mobile Resource Van allows caregivers time to examine equipment and to test the durability of a toy, as well as its appeal to children or its appropriateness for a particular age group. Many objects which would never be purchased because of space limitations or expense can enliven the day care program for the period of the loan. All of the providers claim the new equipment enhances the quality of their care.

The topics of the workshops for day care center workers (determined by the center) include child development, curriculum planning, center management, activities with children, child abuse, sex education and discipline. Demonstrations of materials are emphasized. As with day care homes, the needs of day care centers vary greatly, and individual sessions with a center's director are often planned to determine how best the resource van can assist the program.

Following the 60-minute workshop in the van, the workers and specialist return to the center, where the van assistant has been in charge of the children. The specialist presents a story or song or joins in a project in progress while the caregivers both observe and participate. The specialist introduces children and providers to new activities—many caregivers have never before molded playdough or dribbled finger paints—and also models effective skills in working with children. In one center, for example, a child care worker was so anxious to maintain an extremely professional facade that she had refused to participate in activities with the children. However, seeing that the trainer could "play" with the children without relinquishing her role as a teacher, the caregiver gained the confidence to join in their games and activities.

Classroom activities are not specifically geared to the workshop topic. However, through modeling, discussions are often reinforced.

By spending time in the center, the specialist also becomes familiar with individual children (aided as well by discussions with the van assistant), and by actually using the space he or she is able to note any problems and offer suggestions on improving the environment—discouraging the use of television as a constant background noise, placing pictures at a child's eye level and storing toys on shelves instead of in boxes, for example.

Response to the Program

At the end of the course, providers are asked to complete a survey evaluating the Mobile Resource Program. Ninety-two percent of the caregivers surveyed at the end of the first year stated that their job had been made easier as a result of the visiting van.

"The topics and handouts were very valuable," said one. "When a parent asked for my help with a problem, I was able to give her information on it. I used the handouts constantly." Another liked "the environmental pictures shown of different day care homes and what they did with their homes."

Providers listed many materials they have made from the specialist's instructions: flannel story-telling boards, puppets, xylophones, mobiles, collages, bean-bag toss games, block prints, indoor hop-scotch mats—all of which broaden the scope of activities they conduct in the home.

Caregivers cited the new ideas and the confidence they gained as important factors in making their job easier. One day care mother mentioned the help she received in handling two problems—stuttering and bedwetting—typical of her children's age group.

Caregivers' relations with parents also change as a result of the training. Often providers enter the day care field little realizing what they're getting into, with no business experience, knowing only that they like children. Many leave the field exhausted from hassling with parents. Many providers have indicated that, as a result of the training, they have become more comfortable handling business matters and more assertive in setting limits with parents.

It is important to note that the Mobile Resource Program is very much a 2-way exchange of information. Specialists learn much about activities and the behavior of children from providers. And because there is an enormous range of skill levels within the day care field, there is great variety as to what providers receive from the program. However, their comments indicate that for all the training delivers new or renewed confidence and pride in being members of an important profession. One caregiver expressed it this way: "It makes me feel more professional knowing I warrant this expert attention and effort." Another said, "It was an encouragement for me to stay in day care."

[illegible]

The Mobile Resource Program's services are provided on a first-come first-served basis to caregivers who meet the following criteria:

(Continued on page 35)

Workshops on Wheels *(Continued from page 10)*

- The provider is currently caring for state-funded children (previously considered Title XX children) or has signed a contract with the intention of caring for state-funded children.
- The home has at least three full-time children under six years of age at the time of the visit.
- The home is in a geographic area identified by demographic data as one that has a high concentration of low-income families with children under six.
- The caregiver intends to care for children for three or more years.
- The caregiver feels she needs the program's services and will benefit from them.
- The home or center is licensed by the state.

Day care providers most often learn of Seattle Day Nursery's program from their state licensors at an initial orientation. By manning display booths at conferences and by participating in workshops and professional meetings, specialists also spread word of the program. As the number of "graduates" has grown, word-of-mouth advertisement has increased as well. In addition to directly serving children and caregivers, the program has had an impact in other ways. After consulting with Seattle Day Nursery, several communities in the State of Washington have begun similar programs. Inquiries about it have come from communities in California, Hawaii, Oregon and Illinois, and presentations on the Mobile Resource Program has been featured at regional and local education conferences.

We believe that the Early Education Mobile Resource Program has widespread applicability and we encourage other communities to explore this versatile method of delivering training to day care workers. ■

Checker Training Is Rolling In Washington State

History of a mobile classroom

K. Otto Logan
Program Director
Distributive Education
State of Washington

Chapt. I: How It All Came About

NOW ON THE ROAD serving school districts in remote areas of the state, the Washington State Cashier-Checker Mobile Unit had its origin in an interesting set of circumstances.

It was conceived when employment statistics showed a shortage of well-trained cashier-checkers both nationally and statewide.

This critical need prompted the National Supermarket Institute, the National Cash Register Company, and the Department of Distributive Education at Western Michigan University to call a national meeting to consider ways and means of solving the need. Washington State was among those invited to attend.

The grocers of Eastern Washington quickly endorsed the report of the Michigan meeting and asked Leigh Hales, supervisor of distributive education at Spokane Community College, to attend a two-week teacher-training program at Western Michigan, at their expense.

Later, through the efforts of the National Cash Register Company, the Associated Grocers of Seattle also responded by sending Walter A. Riggs, DE coordinator at Bellingham Technical Institute, to a meeting of grocers held at Western Michigan to evaluate the adequacy of the training program.

The Scene Shifts. With this set of circumstances as background, the focus of "how the cashier-checker mobile unit came about" can now be directed to the State of Washington.

Two overall questions were: What had the State of Washington offered in the past? What could be offered in the future?

It was apparent that despite five cashier-checker training programs operating in the state, the demand was far from being satisfied—especially in outlying areas. The state staff consequently directed its attention to the areas of greatest need. At a brainstorming session of the staff (LeRoy McCartney, Jim Blue, Ernie Kramer, and others), the idea of the mobile unit came out as one possibility for expansion.

When the purchase of a made-to-order unit proved financially prohibitive, the staff, rather than drop the idea, described the situation to Wally Riggs, who pursued the matter with Ray Smith, his vocational director at Bellingham Technical Institute.

Mr. Smith came up with the suggestion that the school, through its regular instructional offerings, could convert a trailer unit into a classroom—if one were available. The state, Mr. Smith said, would have to work out the blueprints and plans, and cover the costs of materials.

Trailer Acquired. The growing interest in the project prompted those involved to present the matter to the executive director of the Washington State Food Dealers' Association, F. N. McCowan. It fell into a completely receptive atmosphere. After Mr. McCowan had had time to discuss it with the directors of the food dealers' group, they put out a notice for a trailer unit.

The response was almost immediate. Safeway, Inc., gave the Association the opportunity to select a used trailer with their compliments, and at the same time, Darigold donated a tractor—one that would be suitable for transporting the trailer from place to place.

With these hurdles out of the way, the next step was to approach the Coordinating Council for Occupational Education, the agency responsible for DE in Washington State. The Council approved the mobile unit as a worthy project and budgeted $15,000 to cover costs of materials and equipment.

The Bellingham Technical Institute, together with the state office, completed plans for converting the 8 by 35-foot trailer into a classroom on wheels. Without benefit of previous blueprints as guides, Institute and state office employees measured [illegible] space for three split "L" checkstands, a table and chairs to serve a group of 12 students at one time, storage facilities, wiring, paneling, flooring, heating, and air conditioning.

With this pioneering blueprint, the Bellingham Technical Institute went to work.

In the meantime, the Coordinating Council employed Wally Riggs as program specialist in food marketing.

Pilot Program. Before the year was up, the unit was ready for its initial pilot program on Haggen's Supermarket lot in Bellingham. A local advisory committee, consisting largely of grocers and supported by labor, backed the initial project 100 percent.

After two weeks of training, the first class of 12 graduates completed the program on July 4, 1969. The unit was ready for launching statewide.

That action was not taken, however, until a state advisory committee representing both labor and management had been organized. The committee's first meeting was held in the mobile unit at Bellingham, where members observed students in training.

First Request. The first request for the mobile unit came from Skagit Valley College where it was to be used in connection with upgrading employed grocery personnel. Harry Tobin, mid-management coordinator at the College, who made the plans on the basis of advice from his local advisory committee, organized the program for employed personnel. As a result of his participation, the ACURA-TOUCH system of cash register operation was initiated—an innovative system which increases checker accuracy.

The second request came from Spokane Community College where the unit was to be used to serve a need in the outlying areas of the Community College district. To brief vocational directors and supervisors on the availability of the mobile classroom, the unit was placed in the center of the campus at Eastern Washington State College during the Washington Vocational Association's Conference in August 1969. Through the efforts of Teacher Educator William D. Syhl[illegible], the first college credit course was offered on how to teach the 90-our cashier-checker course.

The next month the unit was aced on display at the Food Deal-

ASHINGTON STATE VOCATIC
CASHIER-CHECKER TRAIN
MOBILE SCHOOL
IN COOPERATION
WASHINGTON FOOD DEALERS
SEATTLE

Wally Riggs (left), mainstay of the project, and Cecil Clark of the Retail Store Employees Union. Labor and management support the program 100 percent. Riggs designed interior of van, shown in background.

Class in session. At cash register, Gloria Bastedenbeck demonstrates her ability

Students work in teams of three. Kaye Prather, left, checks groceries. T[illegible] Carlson, center, bags merchandise, and Gloria Bas[illegible]beck acts as "customer evaluator." After two weeks of training in the van, students train on the job in a supermarket for another four weeks.

ers' Convention in Seattle. As a result, publicity appeared in the *Washington Food Dealer*, Washington State's *Vocational Education News*, the *Labor Advocate*, and numerous newspapers.

End of Chapt. I. There were many problems in connection with the pioneering of this new unit, most of them occurring during the time span between the first pilot program at Bellingham and the third program at Pullman.

Packing the trunk for travel, finding adequate electrical connections for hookup on supermarket lots, various procedures involved in recruitment and publicity—all of these problems, in themselves interesting experiences, were incidental to making the unit a functional school on wheels.

Chapt. II: The Second Year—Dividends and By-Products

DURING THE SECOND YEAR the mobile unit continued to be requested by community colleges, vocational-technical institutes, and secondary school districts. But more significant, the mobile unit has opened doors to career opportunities.

It has reached out to isolated geographical areas of the state to provide students with equal opportunities for training and employment, and industry with a source of trained employees. Several outlying centers have asked for repeat performances and are now regularly scheduling sessions well in advance.

These were hoped-for results. Other doors have opened unexpectedly. The Navy base at Oak Harbor, in cooperation with Skagit Valley Community College, offered the course to Navy personnel and their wives in preparation for their return to civilian life.

Sidewalk Academy. Yakima experimented with the mobile unit in a project to help high school dropouts. A special counseling class, two to three weeks in length, was organized, and dropouts who showed that they might benefit from a cashier-checker course were counseled into the mobile unit for the ACURA-TOUCH system.

Here is a follow-up comment from the director of the Sidewalk Academy of the Yakima Public Schools: "Persons who accepted failure as their lot in life now saw reasons for living, and most of them became enthusiastic and hopeful young workers."

Witnessing the results of the training offered in the mobile unit, many permanent cashier centers are requesting assistance in upgrading their checker education programs. One outcome has been an entirely new curriculum embracing the ACURA-TOUCH system which got under way early in 1971 at the Clover Park Education Center. A new instructor has been trained and initiated.

Two-Year Course. Of all the by-products and dividends, perhaps the greatest—for both the food industry and student opportunity—was the Coordinating Council's approval of the Food Marketing Institute, a two-year food marketing program now under way at Spokane Community College (for Eastern Washington) and at Fort Steilacoom Community College (for the western part of the state). The curriculum is being planned in terms of behavioral objectives, with training stations in industry contributing to the cooperative aspect of the program.

In cooperation with the National Supermarket Institute and Western Michigan University, the state staff is planning a library which will contain the latest information published in the food industry. Consideration is being given to making this information available to all food centers, and hopefully to planned seminars in the not too distant future.

Commendation. The end of the second year's experience is summarized by F. N. McCowan in the *Washington Food Dealer* as follows:

"We are getting closer and closer to the realization of fulfilling the need for the retail food industry in management training through the state program of vocational education. Plans are well formulated for the facilities.

"Fort Steilacoom Community College in Tacoma and Spokane Community College will offer this course with on-the-job training, beginning in September 1971. Vocational education in the State of Washington and all those who have worked so diligently in developing this course are to be commended. When established it will be as fine a course as is offered any place in the nation."

Progress from here on may well be the topic of Chapter III. ■

Mobile units—boon or bust in industrial education?

Survey sees most promise in delivering elements of career education

By HOWARD SMITH
Editor

"Traveling" classrooms are a frequent enough sight in American education these days to cause one to wonder. Are they setting a pattern for certain types of education? Are they a good investment for industrial education? Will they be useful in bringing together resources for career education?

As an approach to the questions, editors of INDUSTRIAL EDUCATION canvassed the state departments of education to see where and how the mobile unit was being used in this specialized area of education.

Many states, we found, do not use the mobile units in any way or they do not use them for industrial education. Some said they planned to use them in the future; a few said they did not feel that the concept was practical for industrial education.

Yet, the survey identified 16 states which used the trailers for either industrial arts or vocational-industrial programs. In all, 50 units were found being used for various purposes.

Most popular uses were for career exploration, and vocational programs for disadvantaged and adults. Twelve responses indicated that they used the trailers for either career exploration or for guidance. We construed these types of programs to have a great deal in common although obviously they are not the same thing. Six units served disadvantaged.

Three types of trailers were found in use. One is the commercially available "house" type units outfitted by firms which are in the business of providing mobile classrooms. Another approach is to buy an old passenger or school bus and either build in the equipment for the program or contract for a commercial firm to do it. The third approach is the complete "do-it-yourself" approach; where a vocational school constructs the trailer on a purchased chassis and installs the equipment.

Typical of the first approach are the industrial arts trailers used in New York City for elementary school industrial arts and for career education. In New Jersey the same type unit is used for a variety of innovative programs including auto tune-up, commercial typing, graphic arts and assembly line production. Such trailers usually run from 30 to 60 feet long and follow the lines of the conventional "house trailer."

School or passenger buses have worked out well for some situations such as the electronics programs in New Mexico and Colorado as well as career education in Wyoming.

The "do-it-yourself" approach is represented by an exploration program for three elementary schools in Wilkes County, North Carolina which is housed in an 8 by 32-foot trailer constructed at the Wilkes Vocational Center. Welding, carpentry and electrical classes constructed two units—one for industrial arts and one for home economics. Success of the first two units has led to a third now being constructed for guidance in careers and awareness to the "world of work."

Reasons for using trailers vary widely. The New Jersey State Department of Education, which operates 12 units, has as one of its objectives to promote permanent programs by demonstrating a need through mobil approaches. It feels that the trailers can help sell the value of the program in question.

Some districts use them because low enrollments do not warrant giving permanent space in a fixed location. Others use them for courses of short duration which can be more easily brought to the industry or the community. Still others use the mobile approach because they find it more feasible to have several schools sharing the cost of the laboratory and the instructor's salary. (Such is the case with an electronics program which shuttles daily between two schools 18 miles apart in Colorado.) New York City uses the trailers it has to enrich the elementary school program with hands-on career oriented activities. Where the trailer is used for career education and guidance information it houses a variety of resources for the broadest possible experience for the student.

There are some advantages to the mobile classroom as opposed to its fixed counterpart. The first of these is that it is initially cheaper than adding a room to a crowded school. And the cost per student factor is lower if it can be shared with another school. Some mobile units are shared with three districts thus reducing the cost even more. Nor does expensive equipment sit idle.

Arizona students visit a mobile resource unit for career education. A coordinator on duty at all times guides them through their search.

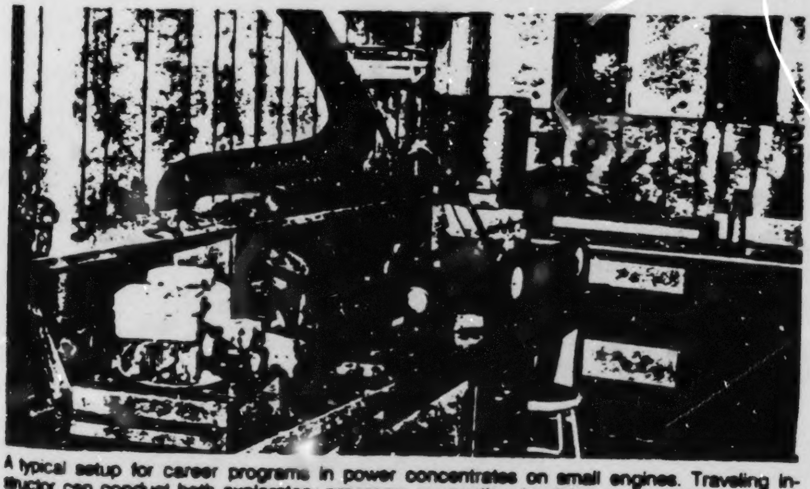
When one course is over the unit moves on to another school. More efficient use is also made of the instructor's time since he serves two or more schools.

On the other hand, the mobiles involve some inherent difficulties. These include rapid depreciation of the unit; high maintenance costs for the tractor or power unit (including gas, oil, tires, and repairs). Delicate equipment can be more easily damaged through transport over rough terrain and placement of equipment is limited by narrow widths particularly when buses are used.

It could be significant that no user of the mobile units has said they were disappointed with them. But we're not sure that such statements aren't suppressed for sake of the program. It is more significant that a number of the units have been in use for some time and have not been abandoned. In Arkansas, for example, the mobile machine shop has been operating since 1970, has been used in 18 high schools, vocational-technical schools and youth centers, has enrolled and taught 1,085 high school students and 141 adults. This gives some credence to their evaluation: "Its three years of services . . . has magnified the need for more units in various training areas.

"We consider this prototype unit . . . practical and economical. It is a packaged and complete exploratory course (which) can be moved into the areas where it is wanted and needed. Disadvantaged and slow learning students are often motivated to learn when action situations are presented. This is a program that is . . . profitable, full of action, interesting and challenging."

While mobile units are not taking the country by storm they are proving useful in presenting new programs of career education, in meeting some large-city and some rural educational problems where educational needs of people are not being met. And how do you measure the value of a program that meets a human need? ■


A typical setup for career programs in power concentrates on small engines. Traveling instructor can conduct both exploratory programs or vocational training and updating.

How states use mobile units in industrial education

INDUSTRIAL ARTS

Arizona
Activity: Career exploration
Mohave County schools are visited on a regular schedule by a mobile resource unit to provide exploratory career resources for children from kindergarten through twelfth grade. A 30-foot trailer is equipped with approximately 20,000 items. Hardware includes a microfiche reader/printer, movie and slide projectors and cassette players.

Kentucky
Activity: Career evaluation and pre-vocational experience
Persons who want to determine their interests and abilities prior to job training receive a brief orientation. Then their work behavior is observed by an "evaluator" who assesses quality of work and work habits. Finally, a person is directed to more definite occupational, educational and training areas. Goal is to increase chances for success in choosing courses. Ten areas of experience include: basic tools; bench assembly; drafting, electrical wiring; plumbing and pipe fitting; carpentry and woodworking; refrigeration, heating and airconditioning; soldering and welding; office and sales clerking; and needle trades (upholstering). The units are operated by the Louisville Board of Education.

New Jersey
Activity: Exposure to innovative programs, training and evaluation for adults, dropouts, and students with special needs
This state-level "mobile vocational educational" program offers evaluation of persons needing guidance and training and provides innovative training programs in seven areas of work: industrial training (assembly line production); keyboard skills (typing, key punch and assorted business machine operation); auto tune-up, small engine repair; supermarket check-out; graphic communications; hotel management; plastic production and automated typing. Each of 12 trailers (some housing more than one program) travel September through June to schools and prisons throughout New Jersey. Program is organized under the Bureau of Special Needs and Cooperative Education, Division of Vocational Education.

A vocational carpentry program provides Wisconsin Indians with entry skills. They will return to the reservation to provide much-needed manpower for construction of 45 new homes; a community center and various home improvement projects.

New York
Activity: Elementary school industrial arts and career education
New York City maintains three elementary general shop mobile units serving kindergarten through sixth grades. (See article, "Curbside Shops for New York City," March 1971, INDUSTRIAL EDUCATION.) These 10 by 30-foot units, offering exploratory programs in woods, metals, graphic arts, electricity-electronics, ceramics and plastics, rotate among approximately 30 elementary schools. Syracuse has one elementary level general shop mobile unit for grades 5 and 6.

North Carolina
Activity: Career or occupational guidance and exploration for middle grades
Three counties have programs utilizing mobile units. Typical of these is Wilkes County with three trailers set up for hands-on exploration. One trailer has an industrial arts orientation and is equipped with small power tools, tables and storage to carry on activities in ceramics, woodworking, electricity, metals and other crafts. A second unit has a home economics thrust. A third unit is being outfitted with audio-visual equipment and software for a guidance program in awareness to the "World of Work." Trailers were constructed by vocational students at the Wilkes Vocational Center, Wilkesboro, NC.

Pennsylvania
Activity: Mobile career laboratory
Program centered at John F. Kennedy Center, Philadelphia. No details available at this time.

Utah
Activity: Career guidance for rural schools
A 35-foot van is outfitted with both hard and software for occupational exploration. A 14-hour condensed curriculum was programmed so that every ninth grade student would be involved. Involves orientation, testing, test evaluation, exploration, individual counseling with both students and parents. Finally, the students' high school programs are scheduled. As a result of this concept, half of the secondary schools in the state now have on-site career counseling. Original funding came from the State Board of Education.

Virginia
Activity: Elementary school industrial arts for special students
In operation since 1968, the 30-foot unit offers activity in nine different industrial areas: woods, plastics, leather crafts, mass production, graphic arts, candle making, copper tooling, enameling and electricity. Students are 180 fourth, fifth and sixth graders with I.Q. levels ranging from 50 to 80. Unit travels between four schools visiting each four times a year. Program intended to improve quality of education for slow learners, insure attendance and prevent student dropout. Utilized by the four elementary schools in Nelson County.

Wyoming
Activity: Hands-on activity as part of career education
An old 32-foot school bus was outfitted with benches and equipment to provide tool-using activities in woodworking, electricity, plumbing, and power mechanics. Four public schools and a parochial school have access to the bus when the teacher requests it. For kindergarten through sixth grades, it was funded from federal career education (exemplary) funds.

VOCATIONAL-INDUSTRIAL

Arkansas
Activity: Exploratory program in machine shop practices
Traveling to local area high schools for six-week programs, the unit exposes 50 or more juniors and seniors to an introductory machine shop program before it moves on. Purpose mainly is to: 1) give additional vocational training; 2) help students determine if they wanted to go on for additional training in this area, and 3) indirectly recruit young persons for the whole training program at the area vocational school at Crowley's Ridge. Unit contains 10 lathes; 10 milling machines, an NC unit and a small drill press. One end of the 60-foot trailer is used for instruction and has room for 20 students; teaches with overhead projector, chalk board and program-exhibit board.
Activity: Expansion of vocational offerings in four technical areas
Project "VAN" travels mobile vans among four rural schools. Units include training in machine shop, refrigeration and air conditioning, "world of construction" and electricity—electronics. Each unit is stationed for a semester at each school and then rotated. Serves both in-school youth and adults. Total cost of vans and equipment, $152,000. Program is offered in cooperation with Arkansas Valley Vocational-Technical School.

Maryland
Activity: Vocational evaluation and testing of handicapped and disadvantaged students
This three-year old pilot program is an attempt to develop an evaluation and readiness procedure that will discover and establish the student's vocational aptitudes, abilities and probable vocational success in areas related to the "world of work." Ninth and tenth grade students, primarily, are involved. Specific jobs were emphasized in the first two years of the pilot. Now the thrust is on "families" of occupations. Known as MU-VET (Mobile Unit for Vocational Evaluation and Testing), program is directed by the Washington County Board of Education. During 1972 the program operated in three counties serving special needs students in 13 regular, comprehensive senior high schools.

Massachusetts
Activity: Project MODEL, a career development program for job entry skills
Four mobile, multi-media teaching laboratories are designed to provide job entry skills for disadvantaged in urban areas, in institutions for the mentally and physically handicapped and in correctional institutions. Program was launched in mid-January.

New Mexico
Activity: Electronics
A mobile unit brings introductory electronics and vocational electronics to students in two different communities in sparsely settled rural areas; another unit is used for orientation for career education. An old school bus was outfitted with electronic instructional hardware to teach either beginning level or advanced electronics. An instructor, hired full-time for the unit, alternates between two schools. The career orientation unit spends approximately six weeks at the different schools in metropolitan Albuquerque.

Oklahoma
Activity: Implementing career education through mobile classrooms for home building and power and transportation
Rotating among the Tulsa high schools, the units handle both boys and girls in programs of exploration. The building construction unit includes model house building, concrete form building, mixing and finishing concrete, brick, masonry, painting, sheet rocking, maintenance of buildings. There is some electrical wiring and some plumbing. In the power unit, activities are supported by electronic simulators, appliance service and repair, two-and four-cycle engines and rocketry.
Activity: Vocational guidance and counseling
A whole fleet of these units are moved from school to school bringing vocational counseling to small high schools in Oklahoma. Each unit is manned by two trained vocational counselors.
Activity: Exploratory computer graphics lab
Moves from school to school to provid computer graphics orientation and exploration to students who are training in the fie of technical education and drafting.
Activity: Upgrading of industrial educator teachers in plastics
Moves from campus to campus where industrial education teachers are being trained. Provides orientation and practice in the plastics area.

Utah
Activity: Electronics training
Serves Wasatch School District from Heber City. No further information available at th time.
Activity: Power sewing for the needle trades industry.
Trains up to 10 persons at a time. Currently operating in a small rural community in Emory County.
Activity: Guidance
Being used currently at Utah State University at Logan (a teacher education institution).

Wisconsin
Activity: Carpentry training
The Indianhead VTAE District at Shell Lake Wisconsin, operates a mobile unit among two Indian reservation areas in the northern part of the state to give Indians entry level skills in construction of new homes and renovation of older dwellings. The 14 by 70 foot unit houses a radial arm saw, drill press, bench saw, jointer-planter, hand tools and audio-visual equipment.
Activity: Fluid power training unit to prepare semi-skilled and skilled workers with entry-level skills
This is a nine-week course for either high school students or for adults. Unit is rotated among four locations and serves approximately 216 students annually.
Activity: Classes in reading, English and mathematics in various locations comprising 26 high school districts
Fox Valley Technical Institute in Appleton organized the mobile lab to give adults an opportunity to improve their basic skills so that they can succeed in vocational or technical programs at the institute. Part of this effort is directed at Mexican-Americans who wish to leave the "migrant stream." Another function of the lab is to provide career information for guidance and counseling of high school students.
Activity. Welding program for job skills
Southwest Wisconsin Vocational-Technical School, Fennimore, Wisconsin has outfitted a welding trailer which serves five counties and operates as an extensión of the school's welding program. The $30,000 34-foot trailer is pulled next to anyone of the 31 high schools in the district and will handle training of 50 students a week. Equipment includes eight stick electrode stations, four MIG stations and four TIG stations. Trailer stays in one location from four to 10 weeks depending on the demand. A second mobile welding program is operated by the Indianhead Technical Institute at Richmond, WI. It is moved wherever it is needed in the district for preparatory training or for updating employees' skills. It offers training in arc-stick, TIG, MIG, and oxyacetylene welding.
Activity: Education for disadvantaged and handicapped including adult basic education and small engine mechanics.
This program is based in Janesville, Wisconsin at the Blackhawk Vocational, Technical and Adult Education District headquarters. No other information concerning the program is available at this time.

Fluid power mobile training program crosses state lines to serve Minnesota communities as well as those in northern Wisconsin.

Report of

The Northwest Area Schools Multi-District Secondary Occupational-Vocational Training Program

Project Initiation

In the fall of 1973 a vocational education project became operational in sparsely populated northwestern South Dakota which brought instruction by utilization of three relocatable, self-contained units to students in nine schools having a total of 1,335 students in Grades 9-12. The number of units has since been increased to nine, with nine different courses offered on a semester basis.

From their inception, each of the nine courses has met the vocational education standards necessary to qualify for reimbursement.

Initial funding was principally from federal and state sources.

Previously, few or no vocational education courses had been offered by the nine schools, and none had a comprehensive program in vocational education.

* * * * * *

The following news release issued October 19, 1973, preceding dedication ceremonies at Lemmon on October 31 presents a capsule description of the project in its early stages of implementation.

NATIONAL ATTENTION FOCUSES ON NORTHWESTERN SOUTH DAKOTA . . . VOCATIONAL EDUCATION ON WHEELS

Northwestern South Dakota will be the center of national attention during the next few months for recent innovations. Vocational education is the center of attraction as the multi-district SAVE* organization institutes "vocational education on wheels" for high school students in nine participating school districts.

Dedication ceremonies for the three 12 x 60 foot occupational-vocational education mobile units will be held in Lemmon on Wednesday, October 31, at 1:30 P.M. in the National Guard Armory.

The project, which will involve moving the mobile units periodically to different schools, is a federally-financed exemplary project which has been approved by the State Board of Vocational Education. E.B. (Ike) Oleson is the South Dakota Director of Vocational Education.

The purpose of the project, which will ultimately involve nine transportable classrooms, is to determine the feasibility of mobile vocational education classrooms for rural areas where it would not be practical to bus students to a central vocational facility.

Schools located in northwestern South Dakota that will be involved in the project are Buffalo, Bison, Lemmon, McIntosh, McLaughlin, Timber Lake, Isabel, Faith and Dupree.*

Each mobile unit will look similar to a 12' x 60' mobile home and will contain 720 square feet of instructional area.

The first three units will be designed for course of study in the areas of: (1) general metals to include machine tool operation, sheet metal, electric arc welding and gas welding; (2) building trades to include carpentry, masonry, plumbing and residential wiring; and (3) electricity/electronics to include commercial wiring, industrial electricity, appliance repair, meters, and electric motors.

The proposed curriculum and projects have been designed to provide nine-week instructional units. At the conclusion of each nine-week period, each facility will be rotated to a new site. At the conclusion of the 1973-74 school year, students at a school within each of the nine districts will have received equal exposure to one of the three career educational programs. During the 1974-75 and 1975-76 school years six additional facilities (three each year) will be added to the system so that at the conclusion of the project all nine northwest area schools will have participated in the project on a full time basis.

James Doolittle, Director of Northwest Area Schools SAVE Program, will serve as director for the exemplary project.

Interested persons from throughout South Dakota and neighboring states will attend dedication ceremonies at Lemmon on October 31.

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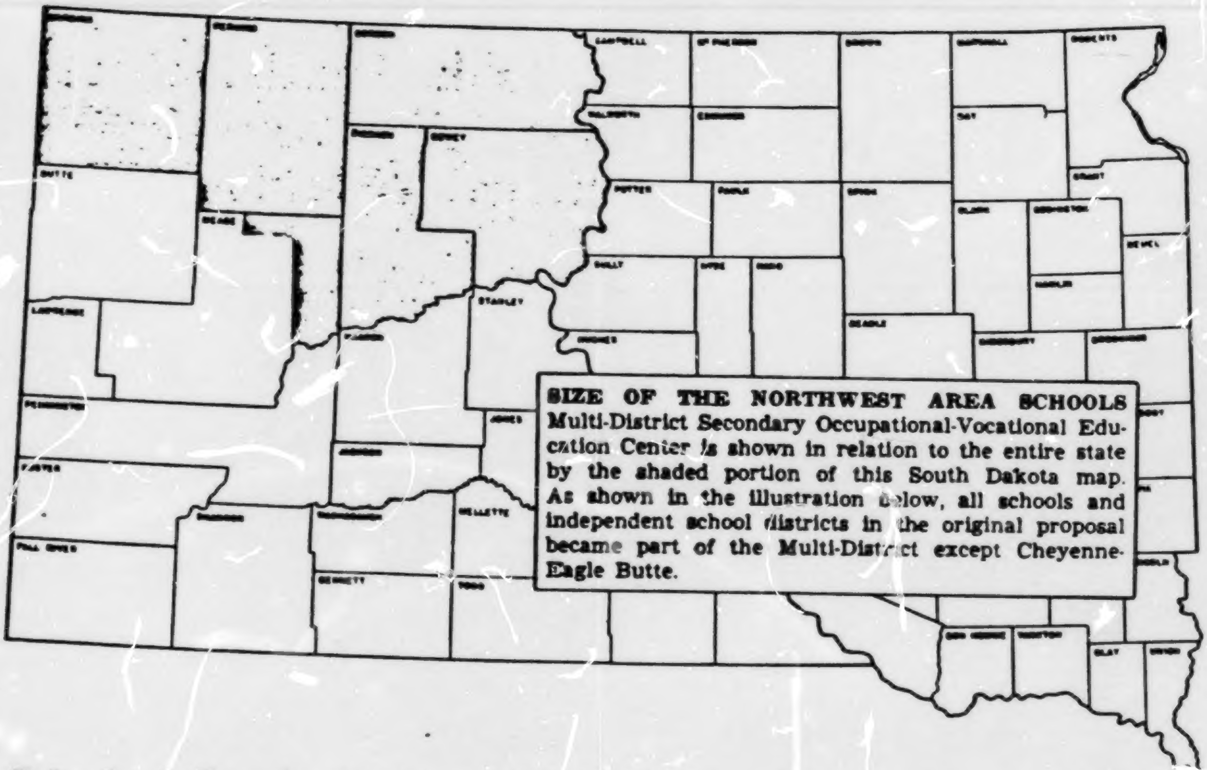
*Reporter's Note: Full title of the organization is the Northwest Area Schools Special, Adult, and Vocational Education (SAVE) program. A detailed explanation is presented on Page 32.

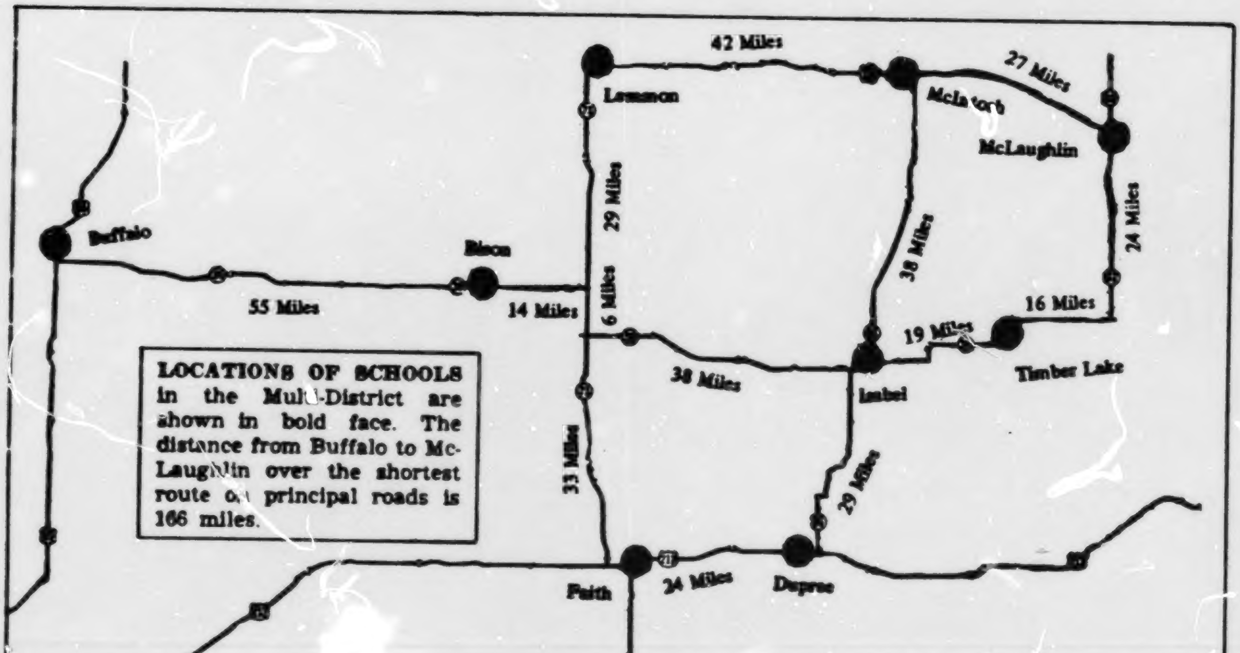
*Reporter's Note: Faith and Dupree are cited in the news release as individual schools, but are in West River Independent District No. 18.

The Northwest Area Schools Multi-District



SIZE OF THE NORTHWEST AREA SCHOOLS Multi-District Secondary Occupational-Vocational Education Center is shown in relation to the entire state by the shaded portion of this South Dakota map. As shown in the illustration below, all schools and independent school districts in the original proposal became part of the Multi-District except Cheyenne-Eagle Butte.

Principal Roads Linking the 9 Towns In the Multi-District


42 Miles
Lemmon
McIntosh
27 Miles
McLaughlin
29 Miles
38 Miles
24 Miles
Buffalo
Bison
55 Miles
14 Miles
6 Miles
16 Miles
19 Miles
Timber Lake
38 Miles
Isabel
33 Miles
29 Miles
Faith
24 Miles
Dupree

LOCATIONS OF SCHOOLS in the Multi-District are shown in bold face. The distance from Buffalo to McLaughlin over the shortest route on principal roads is 166 miles.

General & Specific Purposes

As set out in the application for the exemplary program, the purpose and the general and specific objectives were stipulated as follows:

"The purpose of this exemplary project is for the development of a relocatable secondary occupational vocational education system for the counties of Harding, Perkins, Corson, Dewey, Ziebach, and parts of Meade; this system will contain the necessary classroom facilities, specialized equipment, curriculum guides, A. V. Materials and will include operational staff training for instructors so as to conduct pre-vocational programs."

General and specific objectives of the program were delineated as follows:

"1. To provide meaningful knowledge, that which can be put to productive use.

"2. To provide an atmosphere in which students evaluate their interests and aptitudes for a specific career.

"3. To provide the students with a new approach for educational experience as well as a sense of relativity to education in general.

"4. To broaden the scope of secondary education in the schools participating in the Multi-District program by serving as an extension of occupational classrooms to each member school.

"5. To provide students with the background necessary to enter vocational-technical education programs at an advanced level.

"6. To develop an exemplary program which will serve as a pattern allowing other communities to provide a similar delivery system which will afford secondary students throughout South Dakota the chance to learn new skills."

Other parts of the application pointed out the following specifically significant aspects:

1. Prior exemplary projects in the state that have proved successful in more densely populated areas are not practical in the northwest region of South Dakota because of the great distances between educational centers.

2. The proposed duration of the exemplary project was to be from August 21, 1973 to July 31, 1976.

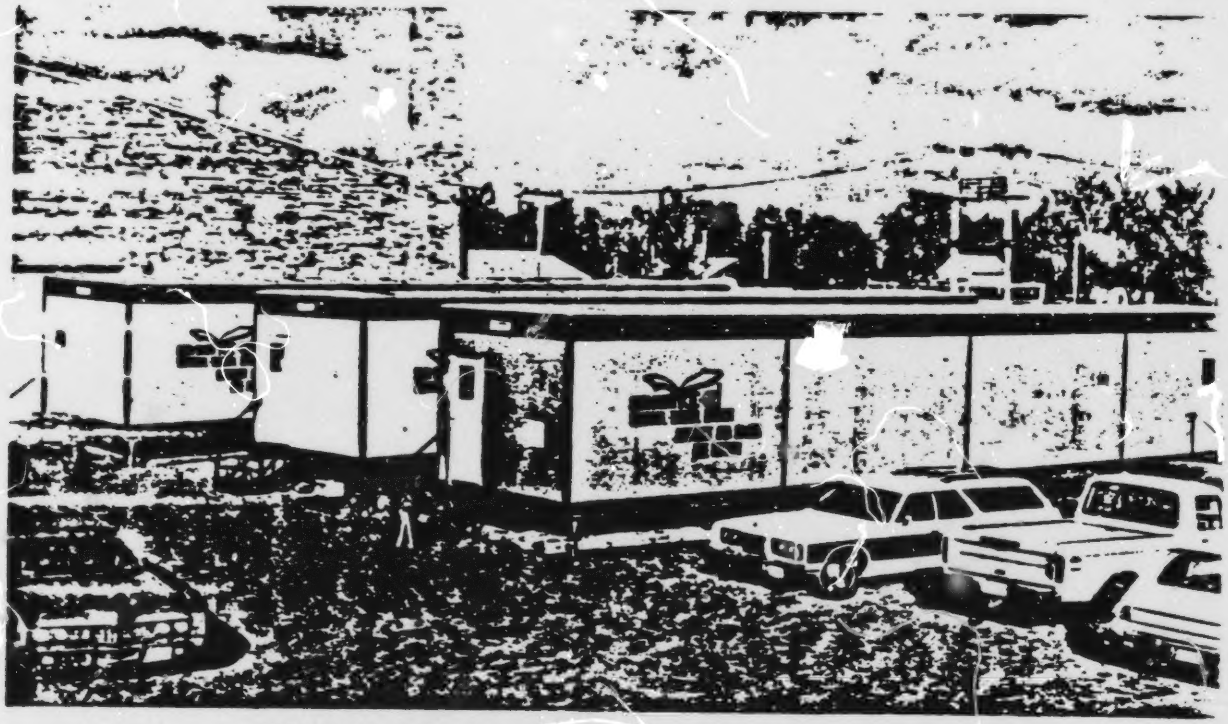
3. The budget proposed amounted to $238,000 for the first fiscal year, with $211,000 to come from Federal and State funds and $27,000 to be raised locally ($3,000 from each school).

4. Certification for each staff member would be based on certification requirements set forth by the South Dakota State Plan for Vocational Technical Education.

5. The proposal was developed in consultation with advisory committees.

6. Students in Grades 9-12 in the high school operated by the Bureau of Indian Affairs at Eagle Butte would be eligible for participation in the occupational-vocational training program if the governing board would choose to become part of the governing districts.

7. Participation of any school district would be in accordance with the South Dakota State Plan for



The First 3 Mobile Units In the Exemplary Project

BEST COPY AVAILABLE

Vocational Technical Education Fiscal Year 1975, Section 4.2, which cites provisions for participation of students attending private nonprofit schools.

8. The 1973 session of the South Dakota legislature approved legislation and the governor signed into law an Act which allows for the origination of multi-district secondary occupational-vocational education centers at the desire and action of local school districts with the approval of the State Board of Vocational Education.

Significant Population & Financial Statistics In the Proposal

POPULATION

Population by city, 1970 census

CITY	
Bison	406
Buffalo	393
Dupree	523
Faith	576
Isabel	394
Lemmon	1997
McIntosh	563
McLaughlin	863
Timber Lake	625

Total population in entire area, 1970 census was 18,013

ASSESSED VALUATION, 1973

School District	Ag Property	Other	Total
Bison Ind. School Dist. 87	$14,460,773.00	$1,373,000.00	$15,833,773.00
Harding [illegible] Ind. School Dist. 4	22,279,180.00	1,823,331.00	24,102,511.00
Isabel Ind. Dist. 1	4,113,267.00	519,001.00	4,632,268.00
Lemmon Ind. Dist. 88	13,744,236.00	5,135,930.00	18,880,166.00
McIntosh Ind. Dist. 1	7,678,876.00	1,283,353.00	8,962,229.00
McLaughlin Ind. Dist. 21	7,467,589.00	1,878,894.00	9,346,483.00
Timber Lake Ind. Dist. 2	6,588,328.00	1,243,969.00	7,832,297.00
West River Ind. Dist. 18	14,387,810.00	1,922,795.00	16,310,605.00
Total Valuation	$90,720,059.00	$15,180,273.00	$105,900,322.00

TAX LEVY FOR EDUCATION BY EACH SCHOOL DISTRICT IN 1973

School District	Tax Levy for Education General Fund	
	Ag.	Other
Bison Ind. Dist. 87	20.57	33.14
Isabel Ind. Dist. 1	24.00	40.00
Harding Co. Ind. Dist. 4	.13.01	18.01
Lemmon Ind. Dist. 88	20.30	32.60
McIntosh Ind. Dist. 1	24.00	40.00
McLaughlin Ind. Dist. 21	21.20	34.40
Timber Lake Ind. Dist. 2	24.00	40.00
West River Ind. Dist. 18	20.99	33.98
Average Levy	21.01	34.02

BONDED INDEBTEDNESS OF EACH DISTRICT, 1973

School District	Amount of Indebtedness
Bison Ind. Dist. 87	-0-
Harding County Ind. Dist. 4 (Buffalo)	-0-
Isabel Ind. Dist. 1	$ 65,000.00
Lemmon Ind. Dist. 88	40,000.00
McIntosh Ind. Dist. 1	61,000.00
McLaughlin Ind. Dist. 21	50,000.00
Timber Lake Ind. Dist. 2	137,000.00
West River Ind. Dist. 18*	97,000.00
*Faith	92,000.00
*Dupree	5,000.00
Total Bonded Indebtedness	$450,000.00

SEMESTER ROTATION OF COURSES AND MOBILE UNITS IN 1975-76 (THIRD YEAR OF EXEMPLARY PROJECT)

- Harding County (Buffalo)
  - 1st—Auto Mechanics
  - 2nd—Health Occupations
- Bison
  - 1st—Building Trades
  - 2nd—Auto Mechanics
- West River
- (Faith)
  - 1st—Agricultural Technology #2 (Animal Science & Range Management)
  - 2nd—Building Trades
- (Dupree)
  - 1st—Quantity Food Occupations
  - 2nd—Agricultural Technology #2 (Animal Science & Range Management)
- Isabel
  - 1st—Electricity/Electronics
  - 2nd—Quantity Food Occupations
- Timber Lake
  - 1st—Sales & Distribution
  - 2nd—Electricity/Electronics
- McLaughlin
  - 1st—Agricultural Technology #1 (Plant & Soil Science)
  - 2nd—Sales & Distribution
- McIntosh
  - 1st—General Metals
  - 2nd—Agricultural Technology #1 (Plant & Soil Science)
- Lemmon
  - 1st—Health Occupations
  - 2nd—General Metals

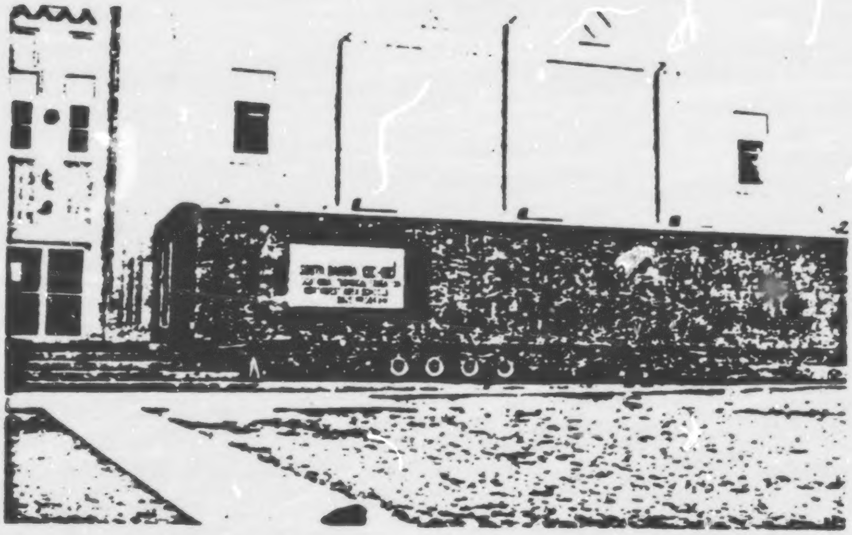
SEMESTER ROTATION SCHEDULE PLANNED FOR COURSES AND MOBILE UNITS FOR THE 1976-77 SCHOOL YEAR

- Harding County (Buffalo)
  - 1st—General Metals
  - 2nd—Agricultural Technology #1 (Plant & Soil Science)
- Bison
  - 1st—Health Occupations
  - 2nd—General Metals
- West River
- (Faith)
  - 1st—Auto Mechanics
  - 2nd—Health Occupations
- (Dupree)
  - 1st—Building Trades
  - 2nd—Auto Mechanics
- Isabel
  - 1st—Agricultural Technology #2 (Animal Science & Range Management)
  - 2nd—Building Trades
- Timber Lake
  - 1st—Quantity Food Occupations
  - 2nd—Agriculture Technology #2 (Animal Science and Range Management)
- McLaughlin
  - 1st—Electricity/Electronics
  - 2nd—Quantity Food Occupations
- McIntosh
  - 1st—Sales & Distribution
  - 2nd—Electricity/Electronics
- Lemmon
  - 1st—Agricultural Technology #1 (Plant & Soil Science)
  - 2nd—Sales & Distribution

Sparse Population Decisive In Multi-District Formation

INDICATIVE of the sparse population in the Multi-District is Meadow on Highway No. 20 just 12 miles east of Bison, a town which had a population of 406 in 1970. In addition to the nine towns in the eight independent districts comprising the Multi-District, the area contains about 25 settlements similar to Meadow. Population of the entire Multi-District in 1970 was 18,013.

THIS MOBILE UNIT, housing the Health Occupations course, was situated tightly near the Buffalo school building when the photo was taken. The unit has running water and a bath to aid instructional objectives.



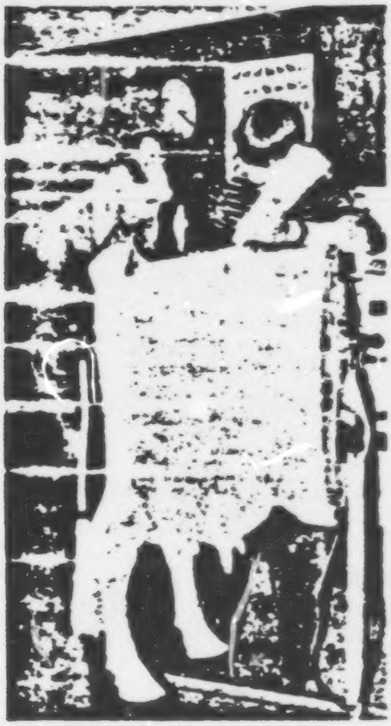
CHARACTERISTICS of mobile units were designed to be adaptive to specific instructional purposes. This one, for Sales & Distribution, was constructed with an entrance and windows to accomodate needs of that course.

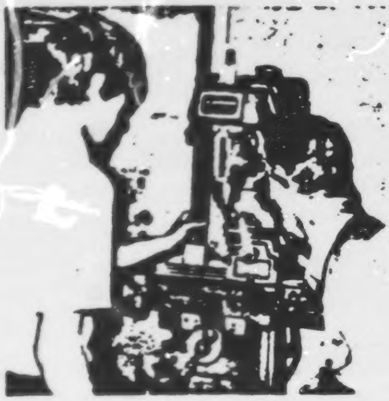
THE NINE mobile units were obtained by the Multi-District in groups of three. Dimensions of the last six were enlarged. The first three were 12 x 60 feet . The last six are 14 x 60 feet.

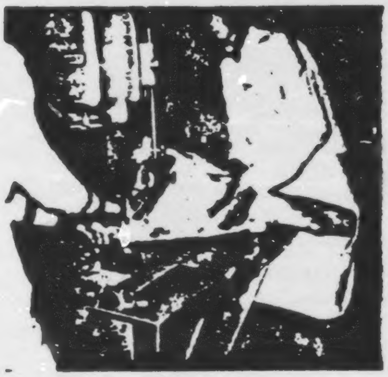
SOUTH DAKOTA OE-ed
VOCATIONAL TECHNICAL EDUCATION
NORTHWEST AREA SCHOOLS
SAVE PROGRAM

# of Instructional Activities For Youth & Adults

Glimpses Inside The Mobile Units







Figures on total expenditures for the year 1975-76 will not become available until the end of this fiscal year, but an amended budget shows anticipated expenditures amounting to $290,235.00. The budget reflects the cost of three additional units put into operation for instruction in Health Occupations, Sales and Distribution (Distributive Education), and Agriculture Technology #2 (Animal Science and Range Management). A summary of the budget follows.

SUMMARY OF THE BUDGET FOR 1975-76

Item or Program	Total
Administration	$41,878.25
Instructional--	
General Metals	16,794.25
Building Trades	15,755.25
Electricity/Electronics	15,376.25
Quantity Food Occupations	15,974.00
Auto Mechanics	15,344.00
Agriculture Technology #1 (Plant & Soil Science)	17,249.00
Health Occupations	46,863.00*
Sales & Distribution (Distributive Education)	47,838.00
Agriculture Technology #2 (Animal Science & Range Management)	42,663.00
Dissemination	1,000.00
Telephone	2,000.00
Moving Instructional Units and Instructors' Travel	11,500.00
Sites (Electrical Connections and Site Preparation)	—0—
	$290,235.00

*Figures for Health Occupations, Sales & Distribution, and Agriculture Technology #2 include costs of mobile units and equipment in addition to instructional costs.

Summary of Income

Since Project Initiation

Since its activation in the 1973-74 school year, the exemplary project has had income from federal, state and local sources.

Records in the South Dakota Division of Vocational Technical Education show it has received $370,731 in federal Part D or "exemplary program" funds since the fiscal year beginning July 1, 1973.

Federal Part B or "basic program grant" funds over the period since the fiscal year beginning July 1, 1973, and extending through December 31, 1975, have amounted to $82,142.14. In the same period, state reimbursement has totaled $27,021.18.

Financial support coming from local sources has increased from $27,000 during the initial year of operation, to $54,000 the second year, and to $108,000 during the current year for a total of $189,000.

Anticipated amount from local sources for the 1976-77 school year is $126,000.

Project Appraisal

Letters asking for appraisal of the project sent to the chairman of the Multi-District Board, to superintendents of the participating districts, and to four legislators of the multi-district area reveal strong support for the project, although some mild but significant reservations were expressed by two of the three legislators who responded.

The letters, dated March 9, 1976, asked each of them these specific questions:

"Have mobile units met expectations in providing students the best and most varied vocational programs that could be offered at a reasonable, efficient cost in schools in sparsely populated areas? Would you recommend a similar operation for other sparsely populated areas?

A strongly affirmative reply was made by Multi-District Board Chairman Andrew Fischbach.

The letter from Chairman Fischbach follows:

I think that in general the mobile units have exceeded expectations. The response by both the high school and adult students has been most gratifying. Particularly pleasing was the fact that some of the male graduates of the Quantity Food Occupations unit have joined the military service to learn more in the area.

With our limited enrollments and very limited financial abilities this is the only possibility we have of exposing our students to a variety of vocational areas that may create an interest in a career. At the same time, some vocational skills are acquired that will always be useful. We cannot hope to produce skilled artisans in the limited time we have, but those students who show an aptitude for a particular vocation have demonstrated that they can indeed learn a lot in a semester.

I would highly recommend a similar cooperative effort in any sparsely settled area where people are willing to cooperate for the benefit of all the students.

RESPONSES FROM SUPERINTENDENTS

From Russel Monroe, Harding County Schools, Buffalo

The Northwest Area Multi-District exemplary vocational education project is serving a large land area with few students. In our school at Buffalo we feel that the total project is a real asset to the system. It was intended to relate interest areas to students and adults in many vocations not readily available to participants. There is a limitation in skill development but the vocational interest to be pursued by the student, if he desires, cannot be replaced. I feel the goals are being instituted well and that a program of this nature has unlimited resource to the communities involved.

From Dr. Carl Ochsner, Bison

There is no doubt in my mind that more could be done if we had a full year of classes for each vocational area we wanted to offer. We have simply dedicated ourselves to providing exposure to a great variety of vocations rather than to attempt to prepare students for the job market in one or two vocations. In that way the mobile classroom approach is meeting our needs. Yes, it has some shortcomings and some problems but we always seem to be able to cope with them. Yes, I would recommend this approach for sparsely settled areas.

(Dr. Ochsner then adds that he feels that these units and other Northwest Area Schools projects have bonded the schools together. He says, "Oh yes, we disagree on issues at our monthly meetings, but we don't dwell on petty issues that so often set one school against a neighboring school. What I am saying is that the Northwest Area projects have given us many common grounds and also get us administrators together at least once a month to discuss Northwest Area services and common problems.")

From John E. Issler, Isabel

Our organization provides us with an excellent variety of vocational programs. These mobile units have surpassed the expectations of their founders.

The cost of these units is less than our cost per CRU in our school system. This multi-district vocational education concept is an excellent answer to the question of providing quality vo-ed services to students in sparsely populated areas at a reasonable cost.

The small size of our high school allows an opportunity for every student to participate each semester in a new unit.

From Robert L. Seeley, Lemmon

As a new superintendent in the Northwest Area, my remarks will be very limited. From what I have been able to observe, the mobile unit concept of vocational education is working very efficiently. If it were not for this program, we would never be able to offer the variety of vocational programs that we currently do. I would most certainly recommend a similar operation for other areas similar to ours.

From Dennis Fernau, acting superintendent, McIntosh

Our students are very excited about each mobile unit except the Agriculture/Crops unit. Each mobile unit provides a basic over-view of the occupation they are associated with; therefore, I would consider them to have met our expectations. The units have worked well by moving them from one town to another even though not all school semesters end at the same time.

From W. O. Rorvig, McLaughlin

1. I believe Mobile Education Units are the answer to curriculum needs of small schools in sparsely populated areas.

2. Staffing has been much better than average.

3. I believe the cost is within reason, since not only secondary students, but also adult educational programs can be handled by the same units.

4. It is the only system I know of that can provide programs where individual school costs would be prohibitive.

5. I would recommend the program to districts which have the need, vision and management personnel to operate such a program.

6. The cooperation among district school superintendents is very necessary, as one bad attitude can change an entire program. You need dedicated administrators, not only for oversight of program, but to assess progress.

From Dominic Calvetti, Timber Lake

As a new administrator this year, I was skeptical of the project, but in a very few months I was a confirmed apostle. I was amazed at the cooperation among nine schools in governing and funding. The participation by so large a number of students in seven different areas shows these young people believe in the benefits. It is something an individual school district would not be able to do unless it expended a great amount of funds. The nine trailers and their areas benefit our school district population very well and we cannot accomodate all those interested. The Adult Education classes are very popular. The program has been accepted very well here in Timber Lake, and I would encourage other school districts to give this type of program careful consideration.

From W. O. Warren, West River Ind. School District (Faith and Dupree)

The mobile units have provided experiences in a wide variety of vocations. This has given whole new concepts for our children who live in this isolated area and the District could not have provided these opportunities without the assistance we have received from State and Federal sources.

RESPONSES FROM LEGISLATORS

From Rep. Harold Millett, Reva

It seems to me that possibly the project has not been in operation long enough to properly evaluate. I am sure that some courses are at each school for too short a period to allow students to gain much from them. The biggest benefit would seem to be that the student might get enough insight into a subject to know whether they would want to pursue it further.

As federal funds are withdrawn, I am sure we must take a good look at the program and may have to make many adjustments to justify its continuance. No matter how you present additional courses in the sparsely settled areas of our state, it is going to be costly.

From Rep. George Mortimer, Belle Fourche

I think the Multi-District Occupational-Vocational Project is doing a very good job. I also believe it is the only system that could be used in such an area, considering the population and distance problems.

The cost-sharing of equipment and instruction makes it possible for the schools to offer instruction that would otherwise be too costly.

To make a program like this work, you must have local support and good management. Both are in this project. It is working good.

From Senator John Riedy, Thunder Hawk

I believe that the use of mobile units for vocational instruction by the Northwest Area Schools is a very practical thing. There may be some question about the necessity of offering such courses to high school students. Since it is evident that those schools involved feel it is a good idea, then the use of the mobile units is certainly the most economical way of providing the space needed for such classrooms.

Offering instruction in several vocational courses has value in more ways than one. It is good for the student who does not intend to go to school after graduation from high school. The person who does intend to attend one of our post secondary vocational schools can better decide which skill he would like to pursue. Since the instruction is offered on a semester basis there is enough time spent on the various courses so that the student can decide intelligently on his future.

STUDENT COMMENTS

Student response to the project has been enthusiastic. The comments which follow were given in evaluation as students were completing the first group of courses offered by the project. The multi-district director says they are representative of most student comments gathered at the time. They are presented here, with wording and punctuation slightly edited.

Since that time, the multi-district has prepared a formal evaluation and follow-up instrument for student use. A copy is presented after the student comments which follow. The form has been "tested" on students, and plans are in progress which would have the director of the multi-district present it to students in each unit after each course.

Student comments follow.

* * *

In this course I feel I have learned practical skills that I will be able to take with me no matter what line of work I go into.

* * *

When this (mobile) unit came I hardly knew anything about carpentry or plumbing, or about drawing blueprints. Now I think I know most of the tools and how to use them, and could draw a set of blueprints if I had to. Dad plans to let me, with a little help from him, build a hog house.

* * *

I have learned a lot even though my tests don't show it. The course helps the kids who don't plan to go to college.

* * *

It was a real good class, and is the only class in this school that interests me . . . It also can be real helpful in everyday life.

* * *

I learned quite a lot (from this course), got real interested in carpentry, and am going to try to get a job at one of the lumber companies this summer.

I think I learned something that will stick with me for a long time. The course gave me an idea of what I like and don't like. It got boring some times, but that's just school. I like it.

* * *

I learned a lot about carpentry mostly, and I also thought you were a good teacher - - better than any other in this school.

* * *

I learned a lot of useful things in this class. In fact, it's about the only class I'm taking that amounts to anything.

* * *

I think this class was a worthwhile class. Even though I'm not going on into the electronics business I learned things I'll probably use in the future. It was interesting also.

* * *

I thought this course was one of the most educational courses I've ever taken. It was educational, I think, because of the interest in the course. If I had my choice I'd take it for a full year or more. Before taking this class I had no interest in electronics and now I'm tempted to go on and take more.

* * *

I thought this (electricity/electronics) was a very good course. I learned a lot and enjoyed the course very much. We covered a lot of material, but it wasn't dull. The teacher was good and knew a lot about what he was teaching and could get it across. This is the best mobile I've taken to date.

* * *

I think this Vo-Tech van was great and did a lot for me because it was something to do with the life I'm going to lead. The courses in it were great, especially the welding and acetylene. The instructor was just fine and I wish he could stay (longer).

* * *

The van was very interesting. I learned a lot of things about metals and welding that I probably wouldn't have learned if I (hadn't taken) this van. The teacher was super. It's because of him, I think, that I learned so much. He knew what he was doing and would always stop to help you. He always laughed with us about our jokes and he was always in a good mood. I think that if all teachers were like this, students would like school and the teacher too. This is the best class I have ever had.

* * *

This was the best van I've ever been enrolled in. Now, whenever I want to weld or cut metal I'll know how. The class was interesting and I'd encourage anyone who had the chance to take it. Our teacher is really good with metals and really knows what he's doing. He is friendly and makes the class interesting by explaining everything and usually had to twice, because the first time I never always caught it.

* * *

I really enjoyed this class. I learned things I can use for the rest of my life when working on a farm or on nearly any mechanical job. If it weren't for this class I probably would not have had the chance to learn these things. As for the instructor, I think he is a wonderful man with as much knowledge in the field as any man with many years of schooling.

* * *

I liked this class because this is what I like to do.

* * *